

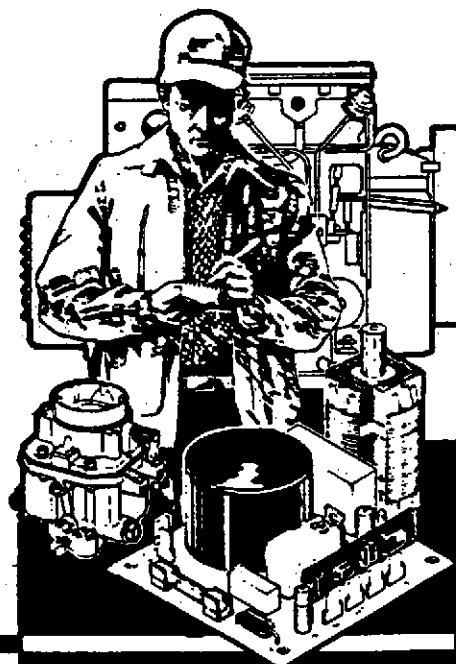
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Onan

Parts Manual

DFE

GenSet



Onan Service Parts

956-0220

3-89 (Spec H-M)

Replaces 9-86 (Spec H-M)

Printed in U.S.A.



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General Information

For parts or service, contact the dealer from whom you purchased this equipment or refer to your Nearest Authorized Onan Parts and Service Center.

To avoid errors or delay in filling your parts order, always give the MODEL, SPEC NO. and SERIAL NO. from the Onan nameplate.

The diagram shows a rectangular nameplate with two circular mounting holes at the top. The Onan logo is prominently displayed at the top. Below the logo is a large rectangular box labeled "MODEL AND SPEC NO.". Underneath this box is another rectangular box labeled "SERIAL NO.". The bottom right corner of the nameplate is folded over, revealing a smaller section labeled "M-1149".

For handy reference, insert "YOUR" nameplate information in the spaces above.

Std. #36D

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Introduction

This Parts Manual applies to the Standard Sets Listed below. The illustrations are arranged in groups of related items, and each part or assembly is identified by a Reference Number. All parts illustrated are typical, and unless otherwise mentioned in the description column the parts are interchangeable between models.

These typical illustrations are subject to change and reflect only the latest replacement parts arrangement. The Right and Left sides of the Set are determined by FACING the FRONT of the Set (Engine End)

Set Data Table

MODEL IDENTIFICATION	RATING	RPM RATING	BATTERY VOLTAGE
130.0 DFE - */ # @	130,000 WATTS	1500 RPM	24 VDC
150.0 DFE - */ # @	150,000 WATTS	1500 RPM	24 VDC
150.0 DFE - */ # @	150,000 WATTS	1800 RPM	24 VDC
155.0 DFE - */ # @	155,000 WATTS	1800 RPM	24 VDC
175.0 DFE - */ # @	175,000 WATTS	1800 RPM	24 VDC
180.0 DFE - */ # @	180,000 WATTS	1800 RPM	24 VDC

Electrical Data Table

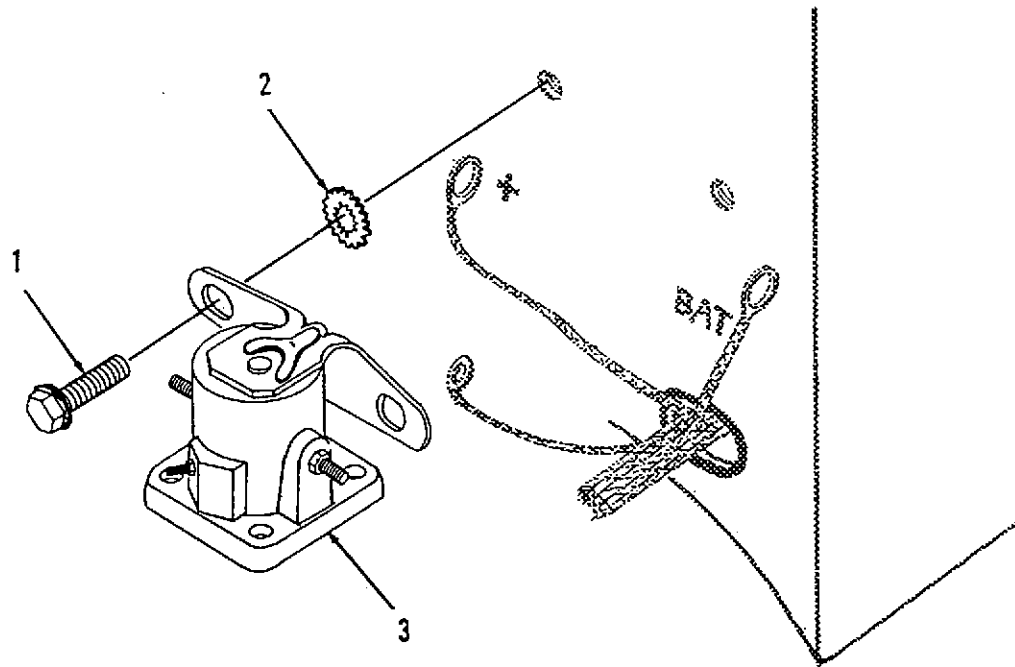
*VOLTAGE CODE	VOLTS	HERTZ	WIRE	PHASE	NOTES
6D	240/480	60	4	3	
9X	347/600	60	4	3	
15	120/240	60	12	1	+
15	120/208	60	12	3	+
	120/240	60	12	3	
	127/220	60	12	3	
	135/240	60	12	3	
	240/416	60	12	3	
	254/440	60	12	3	
	277/480	60	12	3	
515	110/220	50	12	1	+
	115/230	50	12	1	
515	110/190	50	12	3	+
	110/220	50	12	3	
	115/200	50	12	3	
	115/230	50	12	3	
	120/208	50	12	3	
	127/220	50	12	3	
	220/380	50	12	3	
	230/400	50	12	3	
	240/416	50	12	3	
	254/440	50	12	3	
15R50	Same as 15	60	12	3	&

- * - Voltage Codes follow Model Letter designations.
- # - Specification Number: Number 1 is Standard, all others indicate variations.
- @ - Specification Letter: Letter advances (A to B, B to C, etc) with major manufacturing changes.
- + - The Stators are Reconnectible.
- & - Penn State Sets Only, Special Parts identified in manual when applicable.

Engine Replacement Parts

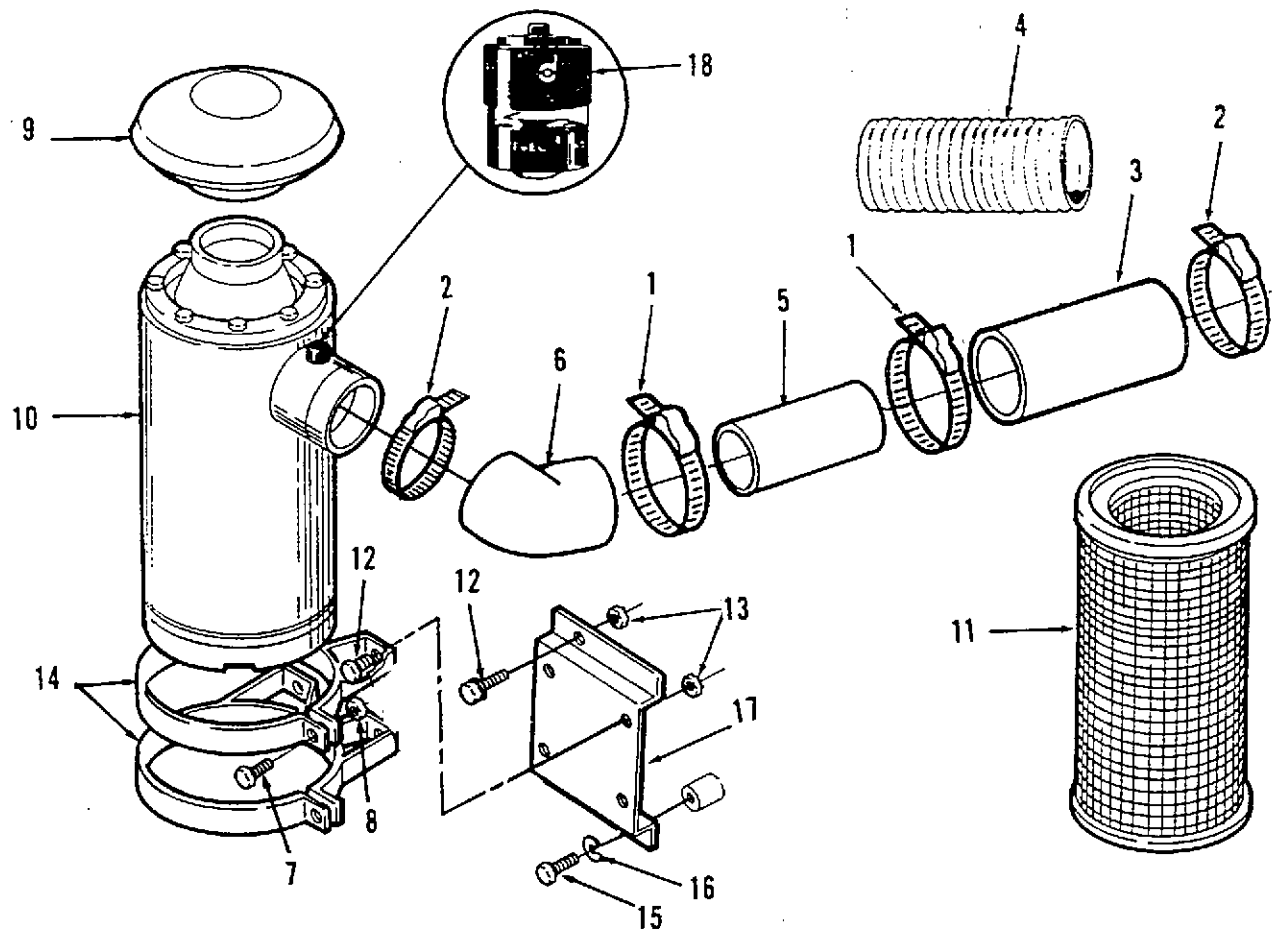
All Engine replacement parts must be ordered from the Engine Manufacturer, except those modified or added by Onan. When ordering engine parts, refer to the Engine Manufacturer's Nameplate and supply the Model, Specification, Serial Numbers and other available information. Refer to the Engine Manufacturer's Manuals for your nearest authorized Parts Distributor; or contact the Onan Distributor from whom you purchased this set, for assistance in ordering the replacement parts.

Start Solenoid
Begin Spec M



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	821-0010	2	Screw, Self-locking - Hex Head (1/4-20 x 1/2")	2	856-0006	2	Washer, Lock - EIT (1/4")
				3	307-2167	1	Solenoid, Start (K2)

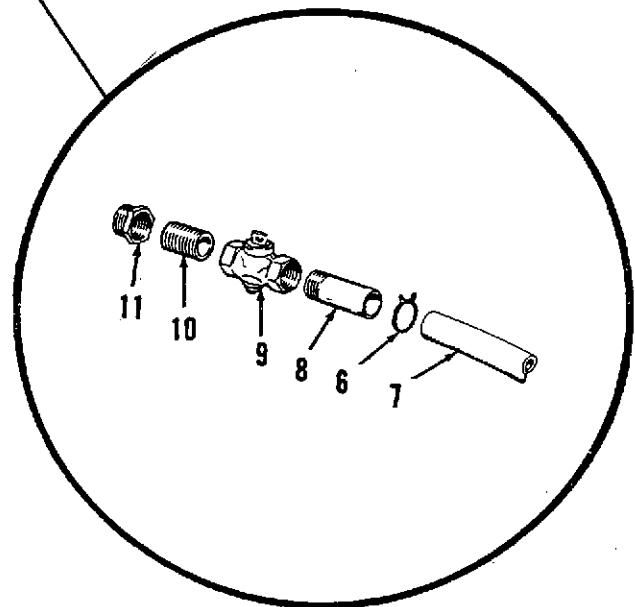
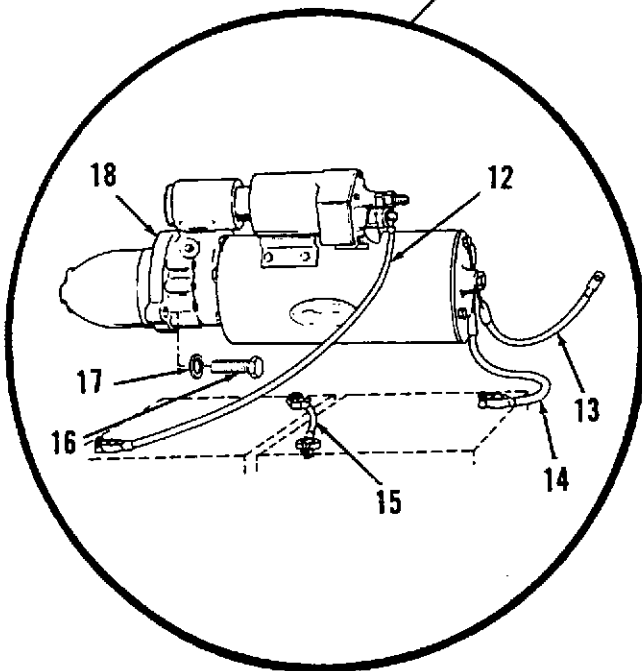
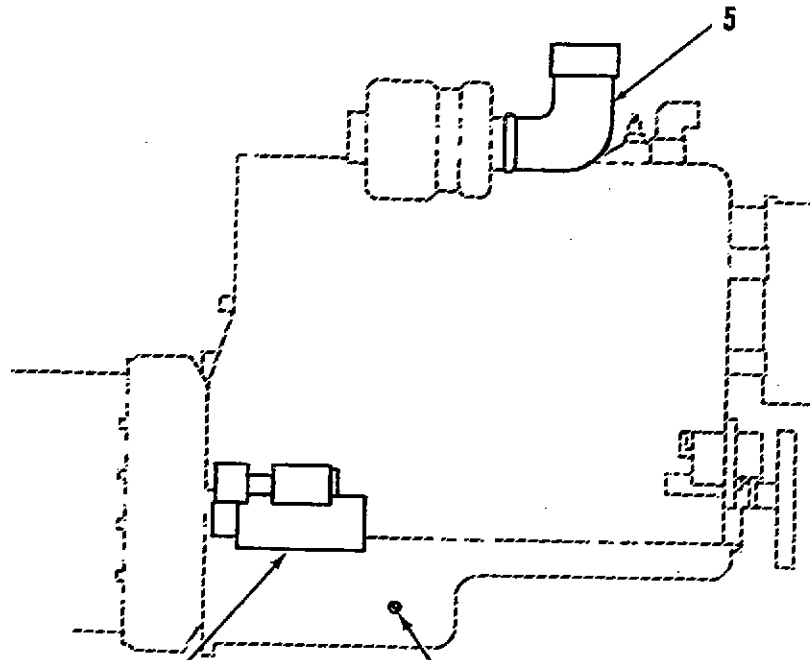
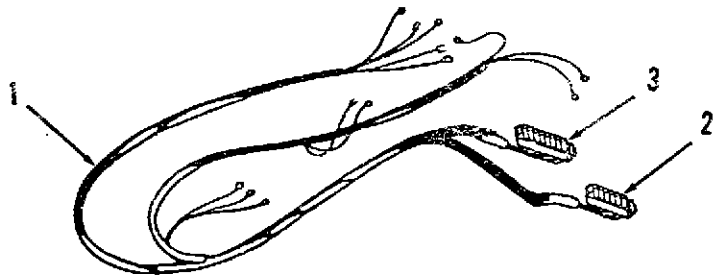
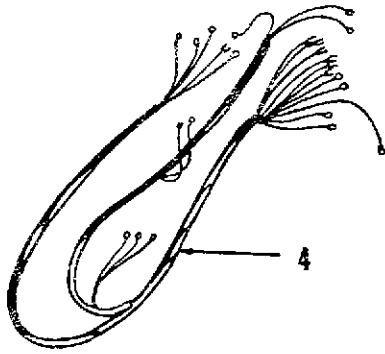
Air Cleaner



M1290

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0863	2	Clamp, Hose - Begin July 1981	10	140-1346	1	Air Cleaner (Includes Element)
2	503-0863	2	Clamp, Hose	11	140-1376	1	Element
3	503-0806	1	Hose - Begin July 1981	12	821-0029	5	Screw, Self-locking - Hex (3/8-16 x 3/4")
4	503-0855	1	Hose - 1970 Thru June 1981	13	870-0281	5	Nut, Self-locking - Hex
5	140-1795	1	Tube - Begin July 1981	14	140-1345	2	Band, Mounting
6	503-1092	1	Elbow, Hose - Begin July 1981	15	801-0119	2	Screw, Cap - Hex Head (5/16-18 x 1")
7	800-0032	2	Screw, Cap - Hex Head (5/16-18 x 1-3/4")	16	850-0070	2	Washer, Lock - Spring (5/8")
8	870-0257	2	Nut, Self-locking - Hex (5/16-18)	17	140-1349	1	Bracket, Mounting
9	140-1347	1	Cap, Air Cleaner	18	140-1548	1	Indicator, Service

Miscellaneous Engine Parts Left Side

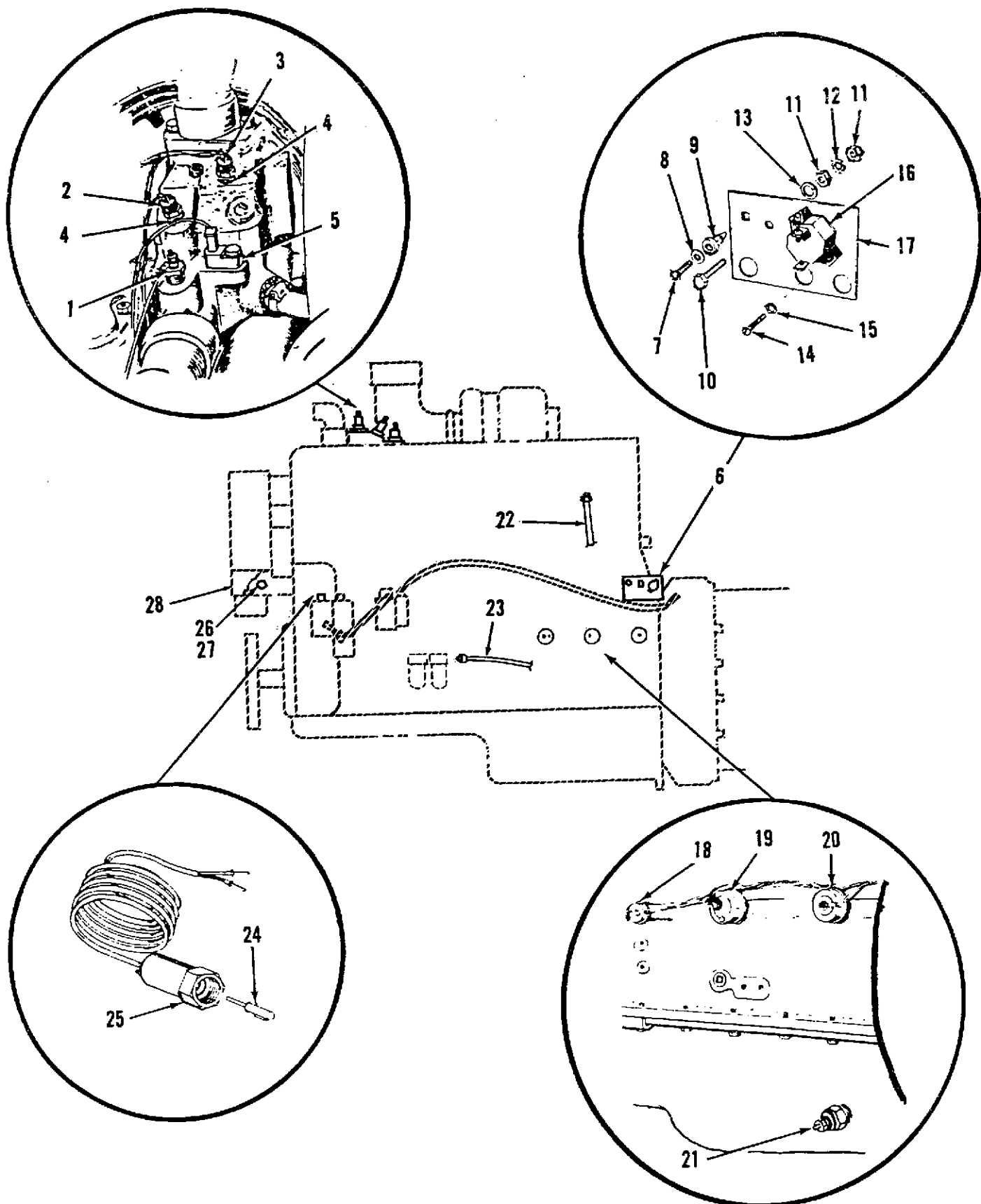


M1239

Miscellaneous Engine Parts Left Side

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	338-2067	1	Harness, Wiring - Begin Spec M (Includes Connectors)	9	504-0011	1	Valve
2	323-1304	1	Housing, Connector - 6 Place	10	505-0100	1	Nipple, Pipe - Close
	323-1200	6	Contact, Pin	11	505-0022	1	Bushing, Reducer - Hex
3	323-1306	1	Housing, Connector - 8 Place	12	416-0636	1	Cable, Battery - Positive
	323-1200	8	Contact, Pin	13	416-0632	1	Cable, Electrical - Ground
4	338-0957	1	Harness, Wiring - Spec H Thru L	14	416-0639	1	Cable, Battery - Negative
5	155-1035	1	Elbow, Exhaust	15	416-0473	1	Cable, Electrical - Jumper
6	503-0197	1	Clamp, Loop	16	800-0135	3	Screw, Cap - Hex Head (5/16-11 x 2-1/4")
7	503-0888	1	Hose	17	850-0070	3	Washer, Lock - Spring (5/8")
8	505-0185	1	Nipple, Pipe - Half	18	191-1348	1	Starter

Miscellaneous Engine Parts Right Side



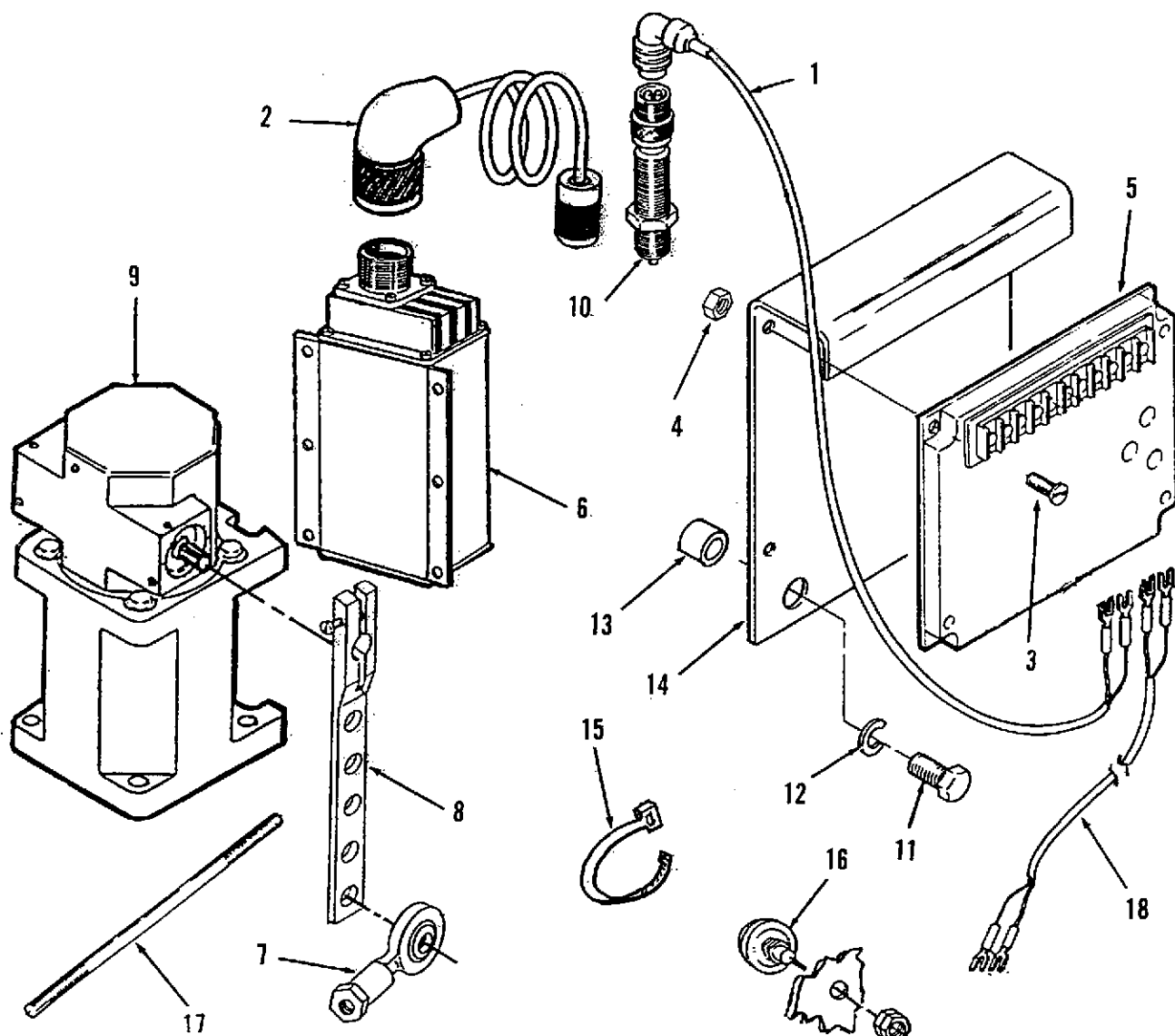
M1240

Miscellaneous Engine Parts Right Side

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Sender, Temperature - Engine Coolant (E2)	14	813-0103	2	*Screw, Machine - Round Head (#10-32 x 3/4")
	193-0247	1	Begin Spec K	15	850-0030	2	*Washer, Lock - Spring (#10)
	193-0109	1	Spec H - J	16	320-0240	1	*Breaker, Circuit
2	309-0178	1	Switch, Thermostatic - Coolant Temperature (S2)	17	332-1382	1	*Board, Terminal
3	309-0179	1	Switch, Thermostatic - Coolant Temperature - Shutdown (S6)	18	309-0272	1	Switch, Pressure - Oil - Alarm (S5)
4	505-0117	1	Bushing, Reducer - Flush	19			Sender, Pressure - Oil (E1)
5	309-0269	1	Switch, Temperature - Low Engine Temperature (S4)		193-0244	1	Begin Spec K
6	332-1383	1	Terminal Assembly (Includes Parts Marked*)		193-0108	1	Spec H - J
7	809-0035	1	*Screw, Tapping - Round Head (#8 x 3/4")	20	309-0169	1	Switch, Pressure - Oil - Shutdown (S1)
8	508-0015	1	*Washer, Insulating	21			Sender, Temperature - Oil (E5)
9	870-0195	1	*Nut, Insulated		193-0249	1	Begin Spec K
10	800-0005	1	*Screw, Cap - Hex Head (1/4-20 x 3/4")		193-0109	1	Spec H - J
11	862-0001	2	*Nut, Hex (1/4-20)	22	501-0216	1	Line, Fuel - Return
12	856-0006	1	*Washer, Lock - EIT (1/4")	23	501-0084	1	Line, Fuel - Incoming
13	850-0040	1	*Washer, Lock - Spring (1/4")	24	302-0753	1	Tang, Drive - Tachometer
				25	302-0750	1	Sender - Tachometer
				26	800-0130	1	Screw, Cap - Hex Head (5/8-11 x 1")
				27	850-0070	1	Washer, Lock - Spring (5/8")
				28	191-1144	1	Guard, Belt

*- Parts included in Circuit Breaker Assembly.

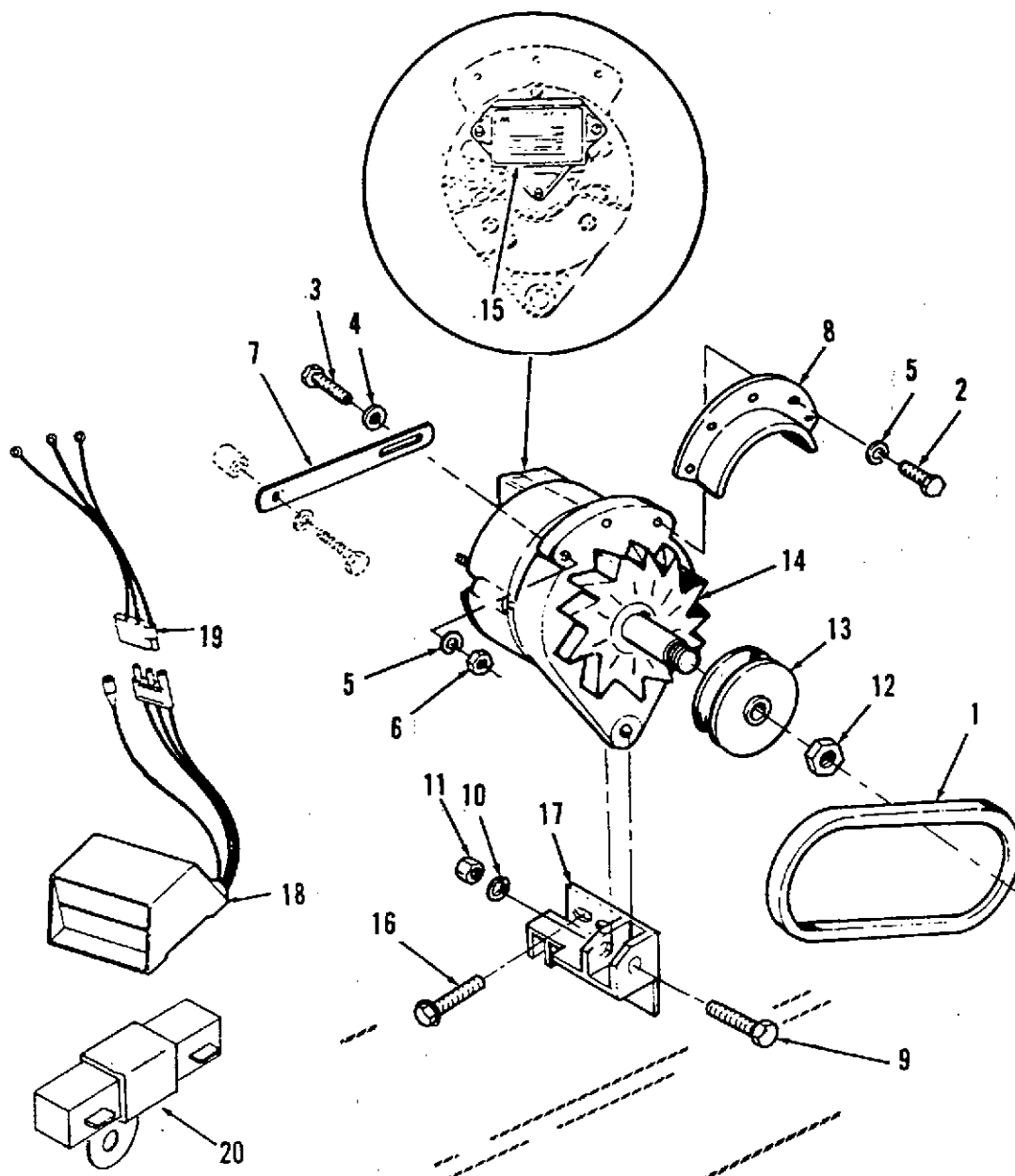
Electric Governor



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	338-1765-04	1	Harness, Wiring - Controller to Pickup Begin Spec M	10	151-0411	1	Pickup, Magnetic
2	338-1086	1	Harness, Wiring - Controller to Pickup Spec H thru L	11	800-0151	2	Screw, Cap - Hex Head (3/4-10 x 1")
3	813-0103	4	Screw, Machine - Round Head (#10-32 x 3/4")	12	850-0079	2	Washer, Lock - Spring (3/4")
4	870-0131	4	Nut, Self-locking, Hex (#10-32)	13	370-4040	2	Spacer, Sleeve
5	151-0637	1	Controller, Governor - Begin Spec M	14	150-2007	1	Bracket, Mounting - Begin Spec M
6	151-0399	1	Controller, Governor - Spec H Thru L	15	332-1445	9	Tie, Cable
7	151-0443	2	Joint, Ball - Spec H Thru L	16	151-0402	1	Potentiometer - Speed Control - Spec H Thru L (Mounted in Set Control)
8	151-0441	1	Lever - Spec H Thru L	17	151-0442	1	Rod, Threaded - Spec H Thru L
9	151-0419	1	Actuator Spec H Thru L	18	338-1777	1	Harness, Wiring - Controller to Actuator Begin Spec M
	NOTE 1	1	Begin Spec M (Not Illustrated) Cummins Engine Co. # 3009247				

NOTE 1. Part installed by Engine Manufacturer, for Replacement Contact Nearest Cummins Distributor.

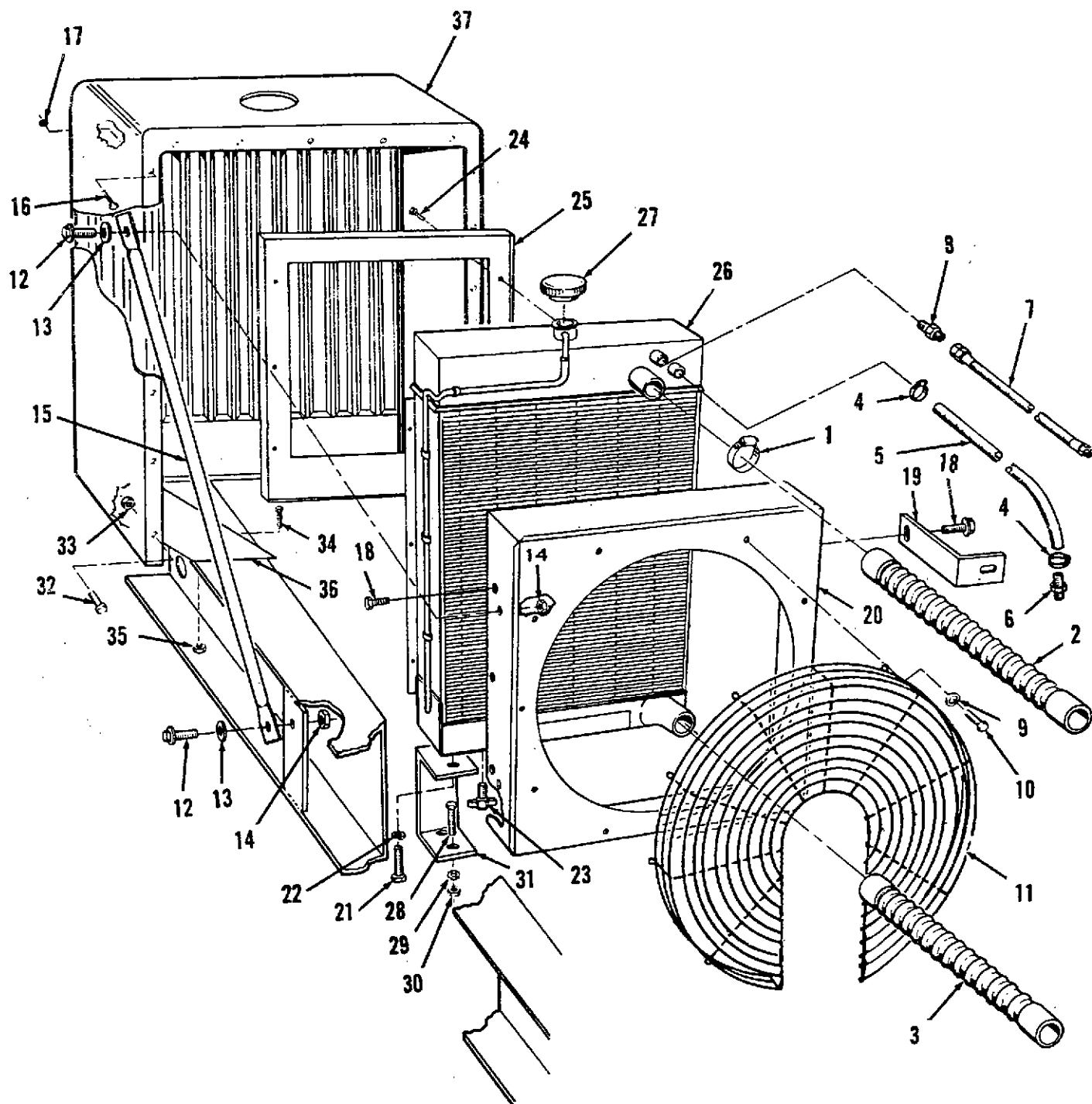
Alternator



ES1138

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	511-0084	1	Belt	13	191-0781	1	Pulley
2	821-0014	1	Screw, Self-locking - Hex (5/16-18 x 1/2")	14	191-0688	1	Alternator Standard
3	800-0030	1	Screw, Cap - Hex Head (5/16-18 x 1-1/4")		191-1258	1	Marine
4	526-0030	1	Washer, Flat (5/16")	15	191-0733	1	Regulator, Voltage (Used with Standard Alternator)
5	850-0045	2	Washer, Lock - Spring (5/16")	16	821-0029	2	Screw, Self-locking - Hex (3/8-16 x 3/4")
6	862-0015	1	Nut, Hex (5/16-18)	17	191-1141	1	Bracket, Mounting
7	191-0869	1	Strap, Adjusting	18	191-0548	1	Regulator, Voltage (Used with Marine Alternator)
8	191-0725	1	Guard, Belt	19	191-0681	1	Cable, Electrical (Used with Marine Alternator)
9	800-0095	1	Screw, Cap - Hex Head (1/2-13 x 2-1/4")	20	191-0550	1	Resistor (Used with Marine Alternator)
10	850-0060	1	Washer, Lock - Spring (1/2")				
11	862-0016	1	Nut, Hex (1/2-13)				
12	868-0007	1	Nut, Hex (5/8-18)				

Cooling System Radiator

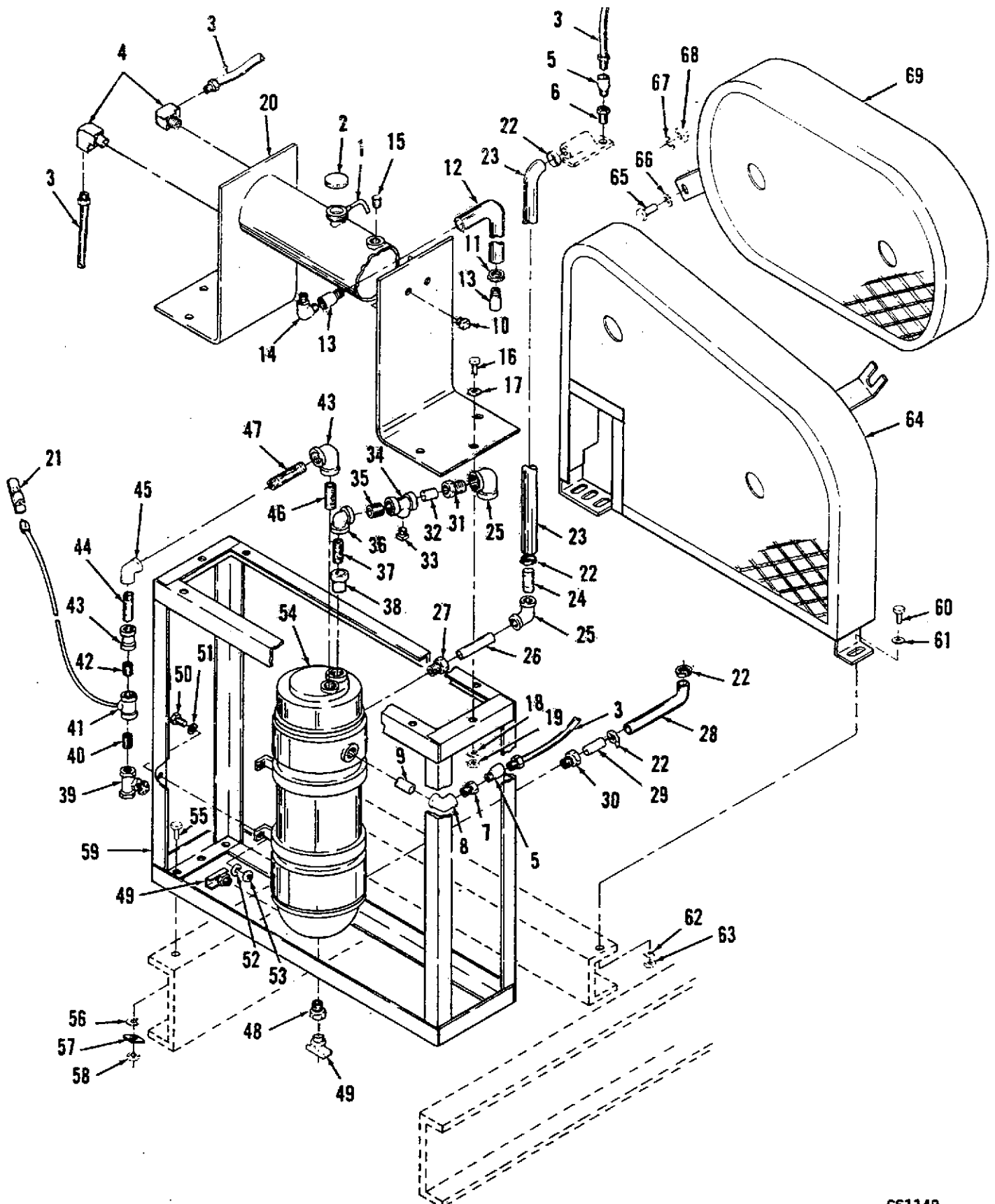


XCS1132

Cooling System Radiator

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0354	4	Clamp, Hose	20			Shroud, Fan
2	503-0752	1	Hose, Upper		130-1017	1	Opening for 34" Fan
3	503-0858	1	Hose, Lower		130-0846	1	Opening for 32" Fan
4	503-0429	2	Clamp, Hose	21	800-0130	4	Screw, Cap - Hex Head (5/8-11 x 1")
5	503-0877	1	Hose	22	850-0070	4	Washer, Lock - Spring (5/8")
6	505-0759	1	Adapter, Pipe to Hose	23	504-0028	1	Cock, Drain
7	501-0087	1	Line, Fuel	24	821-0014	16	Screw, Self-locking - HEX (5/16-18 x 1/2")
8	502-0184	1	Connector, Pipe	25	130-0842	1	Shroud, Radiator
9	821-0018	8	Screw, Self-locking - Hex (1/4-20 x 5/8")	26	130-0992	1	Radiator (Include Cap)
10	526-0018	8	Washer, Flat (1/4")	27	130-0449	1	Cap, Radiator
11	130-0924	1	Guard, Fan	28	800-0092	4	Screw, Cap - Hex Head (1/2-13 x 1-1/2")
12	821-0029	4	Screw, Self-locking - Hex (3/8-16 x 3/4")	29	850-0060	4	Washer, Lock - Spring (1/2")
13	526-0077	4	Washer, Flat (3/8")	30	862-0016	4	Nut, Hex (1/2-13)
14	870-0281	4	Nut, Self-locking - Hex (3/8-16)	31	130-1412	2	Bracket, Support
15	405-1888	2	Brace	32	821-0016	4	Screw, Self-locking - Hex (5/16-18 x 3/4")
16	821-0016	4	Screw, Self-locking - Hex (5/16-18 x 3/4")	33	870-0257	4	Nut, Self-locking - Hex (5/16-18)
17	870-0257	4	Nut, Self-locking - Hex (5/16-18)	34	800-0030	4	Screw, Cap - Hex Head (5/16-18 x 1-1/4")
18	821-0016	6	Screw, Self-locking - Hex (5/16-18 x 3/4")	35	870-0048	4	Nut, Self-locking - Hex (5/16-18)
19	130-0848	2	Brace	36	405-2016	2	Bracket, Mounting
				37	405-1884	1	Panel, Housing - Front

Cooling System Heat Exchanger

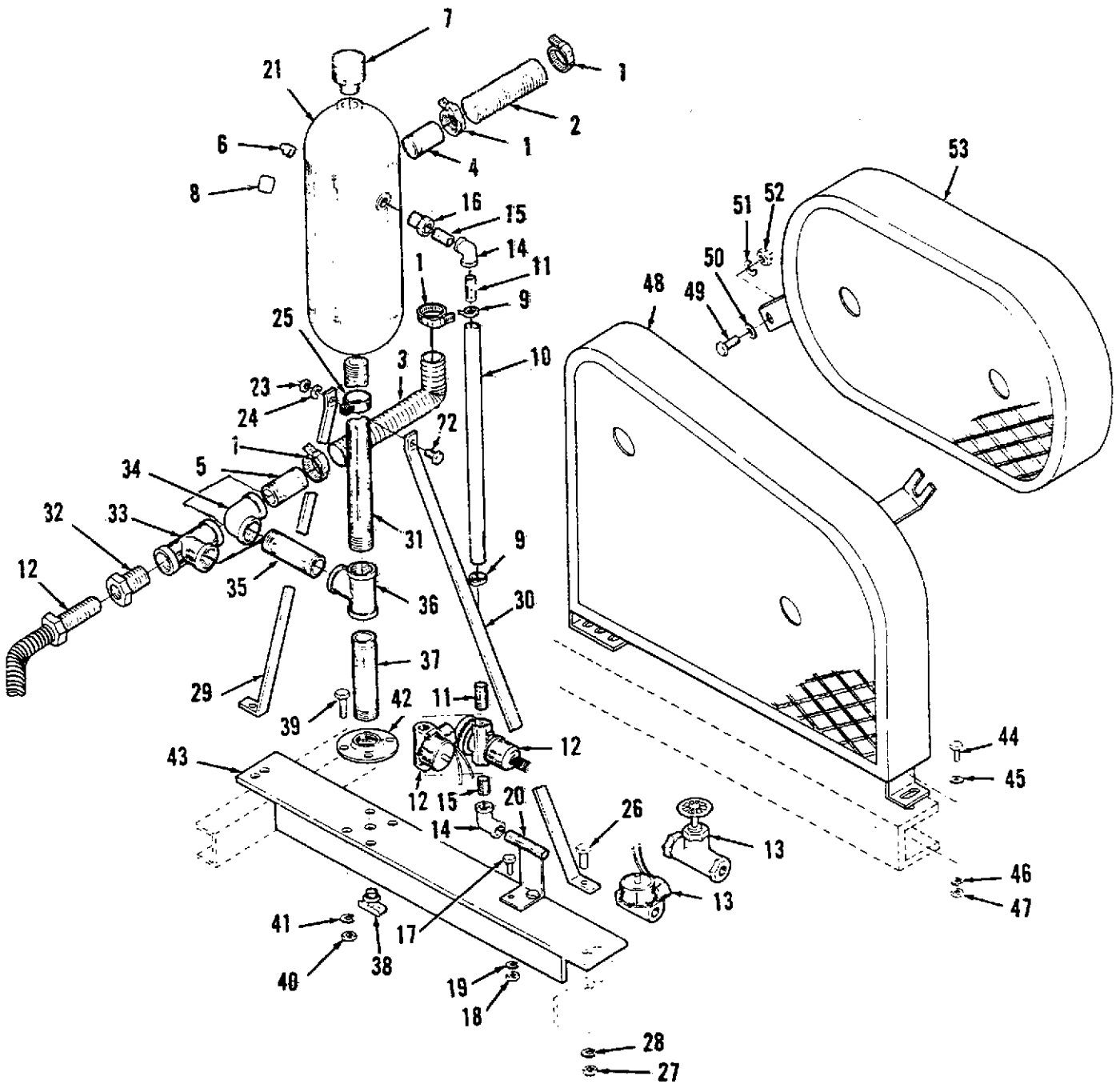


CS1149

Cooling System Heat Exchanger

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0539	1	Hose	37		1	Nipple, Pipe
2	130-0449	1	Cap, Radiator		505-0220	1	1-1/2"
3	501-0087	2	Line, Fuel		505-0172	1	2"
4	502-0020	2	Elbow, Pipe - Street, 90 Degree	38	505-0187	1	Bushing, Reducer
5	502-0184	2	Adapter, Pipe to Hose	39	504-0057	1	Valve, Globe
6	502-0143	1	Bushing, Reducer	40	505-0172	1	Nipple, Pipe
7	502-0049	1	Bushing, Reducer	41	307-0844	1	Valve, Solenoid
8	505-0039	1	Elbow, Pipe - 90 Degree	42	505-0172	1	Nipple, Pipe
9	505-0101	1	Nipple, Pipe - Close	43	505-0175	1	Elbow, Pipe - 90 Degree
10	505-0057	2	Plug, Pipe - Square Head	44	505-0405	1	Nipple, Pipe
11	503-0429	2	Clamp, Hose	45	505-0872	1	Elbow, Pipe - 45 Degree
12	503-0799	1	Hose	46	505-0172	1	Nipple, Pipe
13	505-0759	2	Adapter, Pipe to Hose	47	505-0173	1	Nipple, Pipe
14	505-0003	1	Elbow, Pipe - Street, 90 Degree	48	502-0019	1	Bushing, Reducer
15	505-0054	1	Plug, Pipe	49	504-0028	2	Cock, Drain
16	800-0051	6	Screw, Cap - Hex Head (3/8-16 x 1-1/4")	50	800-0051	4	Screw, cap - Hex Head (3/8-16 x 1-1/4")
17	526-0013	6	Washer, Flat (3/8")	51	526-0013	4	Washer, Flat (3/8")
18	850-0050	6	Washer, Lock - Spring (3/8")	52	850-0050	4	Washer, Lock - Spring (3/8")
19	862-0003	6	Nut, Hex (3/8-16)	53	862-0003	4	Nut, Hex (3/8-16)
20	130-1887	1	Tank, Expansion	54	130-1431	1	Exchanger, Heat
21	332-1506	1	Splice	55	800-0094	5	Screw, Cap - Hex Head (1/2-13 x 2")
22	503-0354	8	Clamp, Hose				
23	503-0752	1	Hose	56	850-0060	5	Washer, Lock - Spring (1/2")
24	505-0375	1	Nipple, Pipe - Half	57	526-0278	5	Washer, Bevel - Square
25	505-0175	2	Elbow, Pipe - 90 Degree	58	862-0005	5	Nut, Hex (1/2-13)
26	505-0172	1	Nipple, Pipe	59	130-1833	1	Frame, Support
27	505-0738	1	Bushing, Reducer	60	800-0028	4	Screw, Cap - Hex Head (5/16-18 x 1")
28	503-0858	1	Hose - Preformed				
29	505-0380	1	Nipple, Pipe	61	526-0041	4	Washer, Flat (5/16")
30	505-0738	1	Bushing, Reducer	62	850-0045	4	Washer, Lock - Spring (5/16")
31	505-0187	1	Bushing, Reducer	63	862-0014	4	Nut, Hex (5/16-18)
32	505-0220	1	Nipple, Pipe - Close	64	130-1891	1	Guard, Belt
33	505-0402	1	Plug, Pipe	65	800-0088	1	Screw, Cap - Hex Head (1/2-13 x 3/4")
34	505-1072	1	Valve, Water Saver				
35			Nipple, Pipe	66	526-0061	1	Washer, Flat (1/2")
	505-0220	1	1-3/4"	67	850-0060	1	Washer, Lock - Spring (1/2")
	505-0748	1	9"	68	862-0005	1	Nut, Hex (1/2-13)
36			Elbow, Pipe - 90 Degree	69	130-1136	1	Guard, Belt
	505-0043	1	1-1/2"				
	505-0175	1	2"				

Cooling System Standpipe

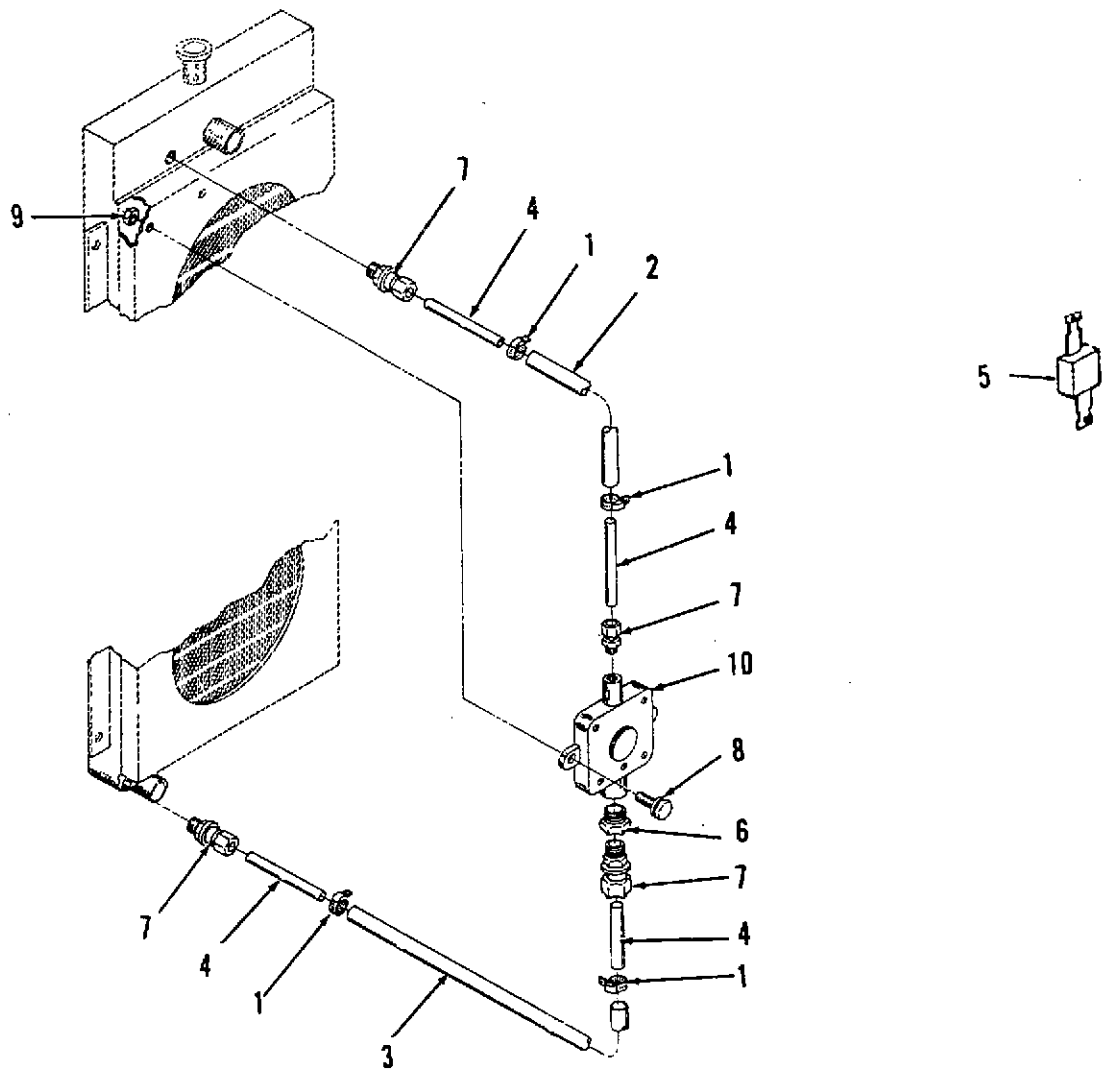


XCS1134

Cooling System Standpipe

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0354	4	Clamp, Hose	27	862-0005	2	Nut, Hex (1/2-13)
2	503-0617	1	Hose	28	850-0060	2	Washer, Lock - Spring (1/2")
3	503-0858	1	Hose, Preformed	29	130-1178	1	Brace
4	505-0204	1	Nipple, Pipe - Half	30	130-1179	1	Brace
5	505-0875	1	Adapter, Pipe to Hose	31	505-0417	1	Nipple, Pipe
6	505-0140	1	Plug, Pipe - Square Head	32	505-0351	1	Bushing, Reducer
7	504-0062	1	Valve, Vacuum Relief	33	505-0374	1	Tee, Pipe
8	505-0949	1	Plug, Pipe - Socket Head	34	505-0175	1	Elbow, Pipe - 90 Degree
9	503-0189	2	Clamp, Hose	35	505-0748	1	Nipple, Pipe
10	503-0361	1	Hose	36	505-0374	1	Tee, Pipe
11	505-0330	2	Nipple, Pipe - Half	37	505-0405	1	Nipple, Pipe
12			Valve, Control	38	504-0006	1	Cock, Drain
	309-0242	1	Temperature Regulating	39	800-0092	6	Screw, Cap - Hex Head (1/2-13 x 1-1/2")
	307-1135	1	Solenoid				
13			Valve, Control	40	862-0005	6	Nut, Hex (1/2-13)
	307-1135	1	Solenoid	41	850-0060	6	Washer, Lock - Spring (1/2")
	504-0090	1	Manual	42	130-0442	1	Base
14	505-0041	2	Elbow, Pipe - 90 Degree	43	130-0857	1	Support
15	505-0004	2	Nipple, Pipe - Close	44	800-0028	4	Screw, Cap - Hex Head (5/16-18 x 1")
16	505-0023	1	Bushing, Reducer	45	526-0041	4	Washer, Flat (5/16")
17	800-0007	2	Screw, cap - Hex Head (1/4-20 x 1")	46	850-0045	4	Washer, Lock - Spring (5/16")
18	862-0001	2	Nut, Hex (1/4-20)	47	862-0014	4	Nut, Hex (5/16-18)
19	850-0040	2	Washer, Lock - Spring (1/4")	48	130-1132	1	Guard, Belt
20	130-0797	1	Nipple, Support	49	800-0088	1	Screw, Cap - Hex Head (1/2-13 x 3/4")
21	130-0425	1	Tank, Standpipe				
22	800-0051	1	Screw, Cap- Hex Head (3/8-16 x 1-1/4")	50	526-0060	1	Washer, Flat (1/2")
23	862-0003	1	Nut, Hex (3/8-16)	51	850-0060	1	Washer, Lock - Spring (1/2")
24	850-0050	1	Washer, Lock - Spring (3/8")	52	862-0005	1	Nut, Hex (1/2-13)
25	130-0871	1	Clamp, Loop	53	130-1136	1	Guard, Belt
26	800-0092	2	Screw, Cap - Hex Head (1/2-13 x 1-1/2")				

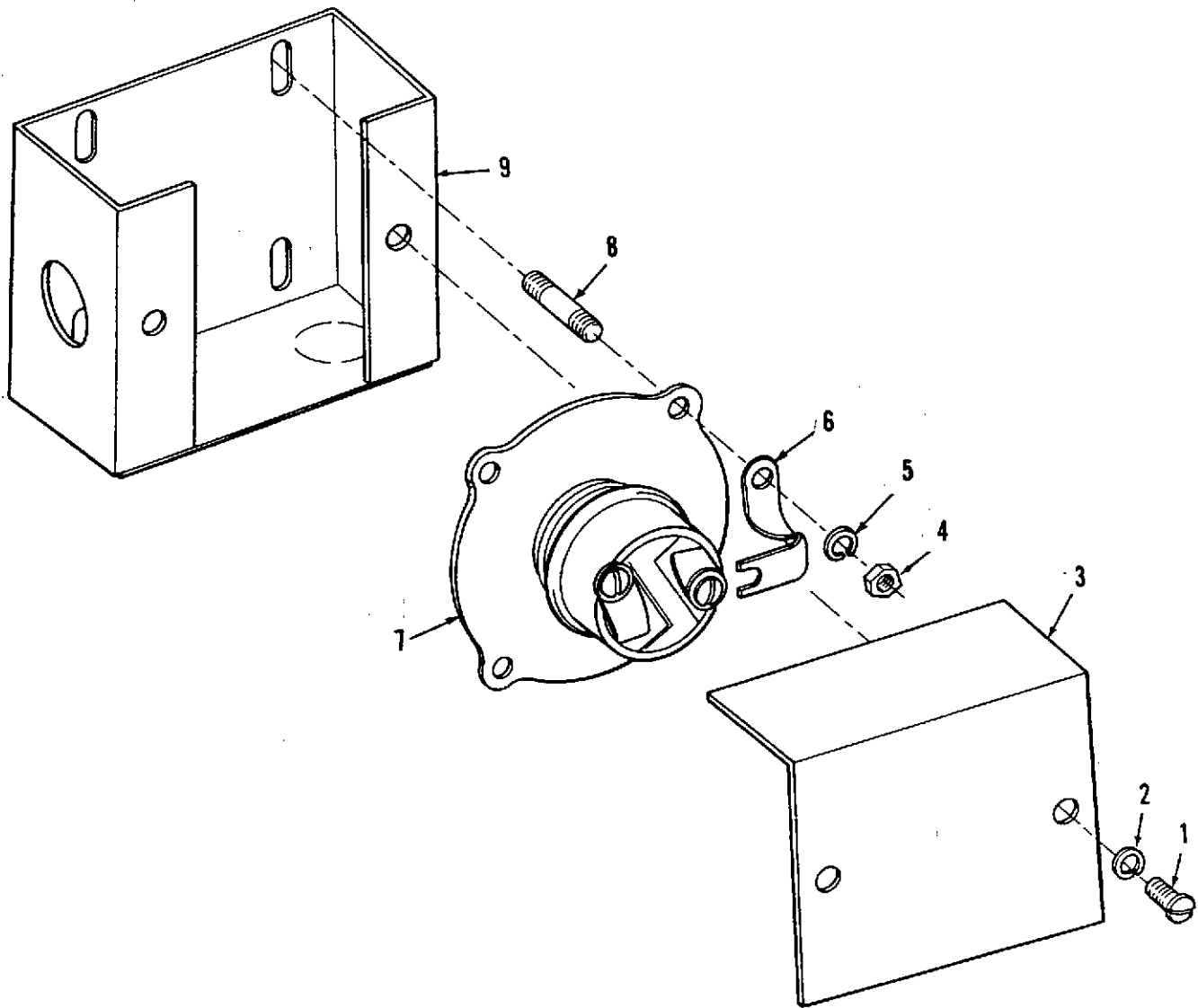
Coolant Level Switch



CS1148.

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0685	4	Clamp, Hose	7	502-0801	4	Connector, Tube, Brass
2	503-1199	1	Hose	8	821-0011	2	Screw, Self-locking - Hex (1/4-20 x 7/8")
3	503-1119	1	Hose	9	870-0212	2	Nut, Self-locking - Hex (1/4-20)
4	130-2053	4	Tube	10	193-0329	1	Switch, Level - Coolant
5	357-0030	2	Diode				
6	502-0802	1	Bushing, Reducer - Hex				

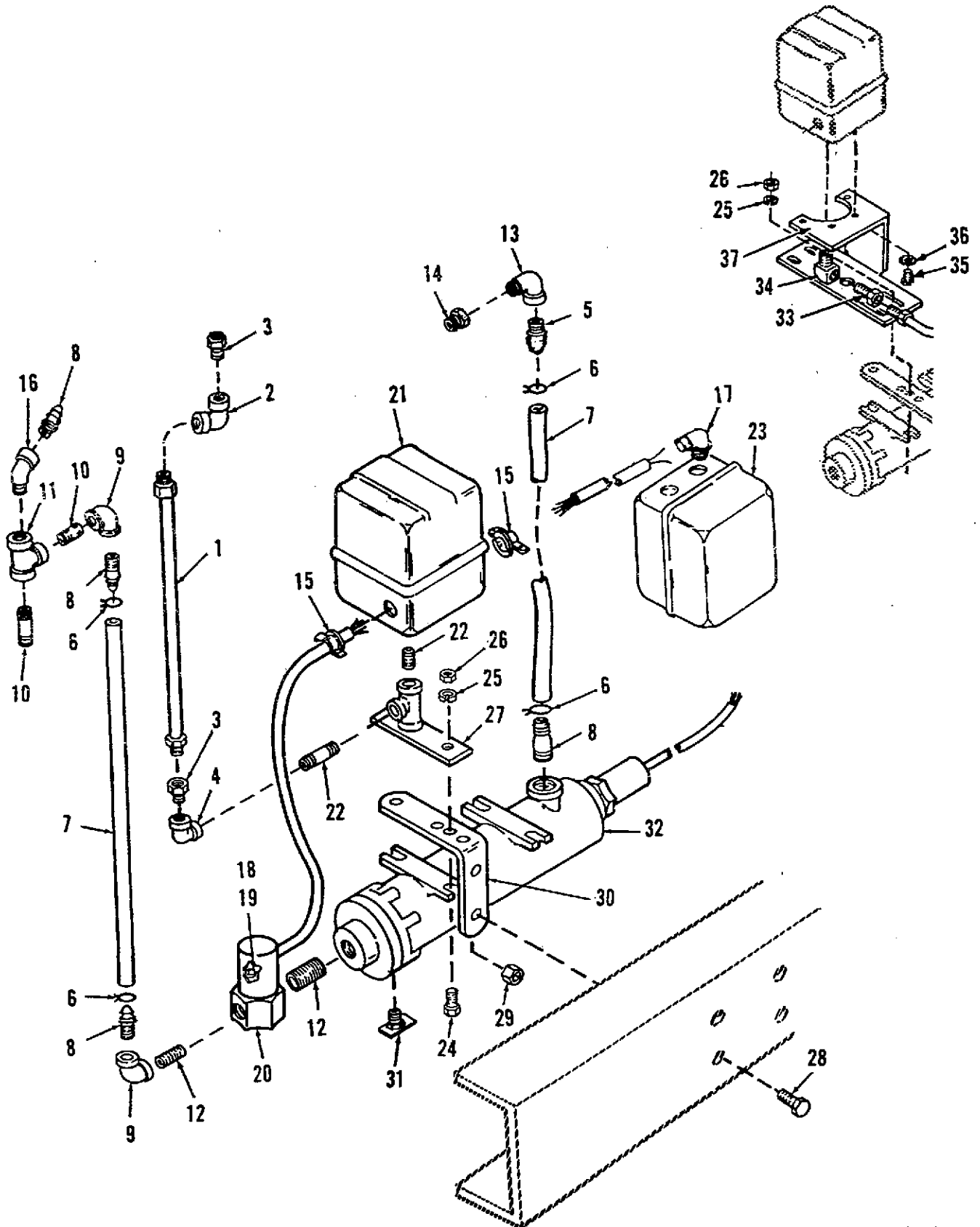
Engine Temperature Switch



CS1063

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	812-0075	2	Screw, Machine - Round Head (#8-32 x 1/4")	5	850-0030	2	Washer, Lock - Spring (#10)
2	850-0025	2	Washer, Lock - Spring (#8)	6	160-0428	1	Strap, Ground
3	333-0013	1	Cover	7	309-0029	1	Switch, Thermostatic
4	870-0053	2	Nut, Hex (#10-32)	8	520-0446	2	Stud (#10-32 x 3/4")
				9	333-0012	1	Box

Heater Horizontal Tank

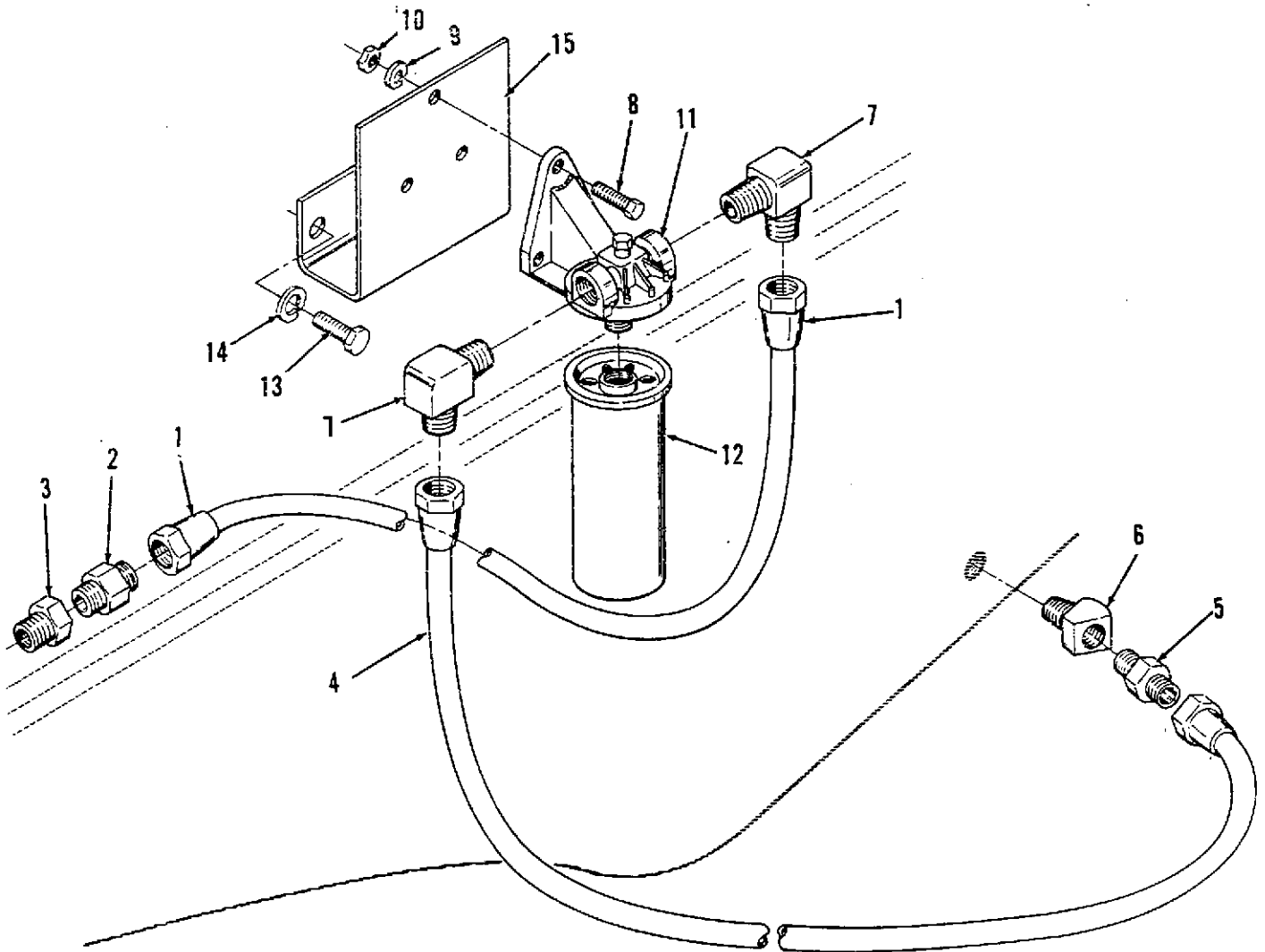


CS1136

Heater Horizontal Tank

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	501-0227	1	Line, Fuel	25	850-0040	4	Washer, Lock - Spring (1/4")
2	505-0037	1	Elbow, Pipe - 90 Degree	26	862-0001	4	Nut, Hex (1/4-20)
3	505-0007	2	Bushing, Reducer - Hex	27	333-0142	1	Support with Tee (1970 Thru 1982)
4	505-0038	1	Elbow, Pipe - 90 Degree	28	800-0052	2	Screw, Cap - Hex Head (3/8-16 x 1-1/2")
5	505-0324	1	Nipple, Pipe - Half	29	862-0003	2	Nut, Hex (3/8-16)
6	503-0429	4	Clamp, Hose	30	130-1191	2	Bracket, Mounting
7	503-0853	2	Hose	31	504-0003	1	Cock, Drain
8	505-0759	4	Adapter, Hose to Pipe	32			Heater, Electrical
9	505-0041	2	Elbow, Pipe - 90 Degree		333-0094	1	2500 Watt, 115 VAC - 1 Phase
10	505-0086	2	Nipple, Pipe		333-0169	1	2500 Watt, 208 VAC - 1 Phase
11	505-0304	1	Tee, Pipe		333-0165	1	2500 Watt, 208 VAC - 3 Phase
12	505-0004	2	Nipple, Pipe - Close		333-0131	1	2500 Watt, 240 VAC - 1 Phase
13	502-0390	1	Elbow, Pipe - Street, 90 Degree		333-0180	1	2500 Watt, 380 VAC - 1 Phase
14	505-0289	1	Bushing, Reducer - Hex		333-0211	1	2500 Watt, 380 VAC - 3 Phase
15	331-0027	2	Clamp, Cable		333-0166	1	2500 Watt, 480 VAC - 1 Phase
16	505-0333	1	Elbow, Pipe - Street, 45 Degree		333-0172	1	2500 Watt, 480 VAC - 3 Phase
17	331-0027	4	Clamp, Cable	33	505-0007	1	Bushing, Reducer - Hex (Begin 1983)
18	323-0957	2	Nut, Wire				
19	332-0149	8	Lug, Terminal	34	502-0054	1	Elbow, Pipe - Street, 90 Degree (Begin 1983)
20	309-0490	1	Switch, Thermostatic				
21	309-0307	1	Switch, Pressure - Oil	35	812-0079	4	Screw, Machine - Round Head (#8-32 x 1/2") (Begin 1983)
22	505-0099	2	Nipple, Pipe - Close (1970 thru 1982)	36	854-0007	4	Washer, Lock - ET (#8) (Begin 1983)
23			Contactor	37	333-0224	1	Bracket, Support (Begin 1983)
	307-1460	1	230 VAC, 3 Pole				
	307-1164	1	460 VAC, 3 Pole				
24	800-0007	4	Screw, Cap - Hex Head (1/4-20 x 1")				

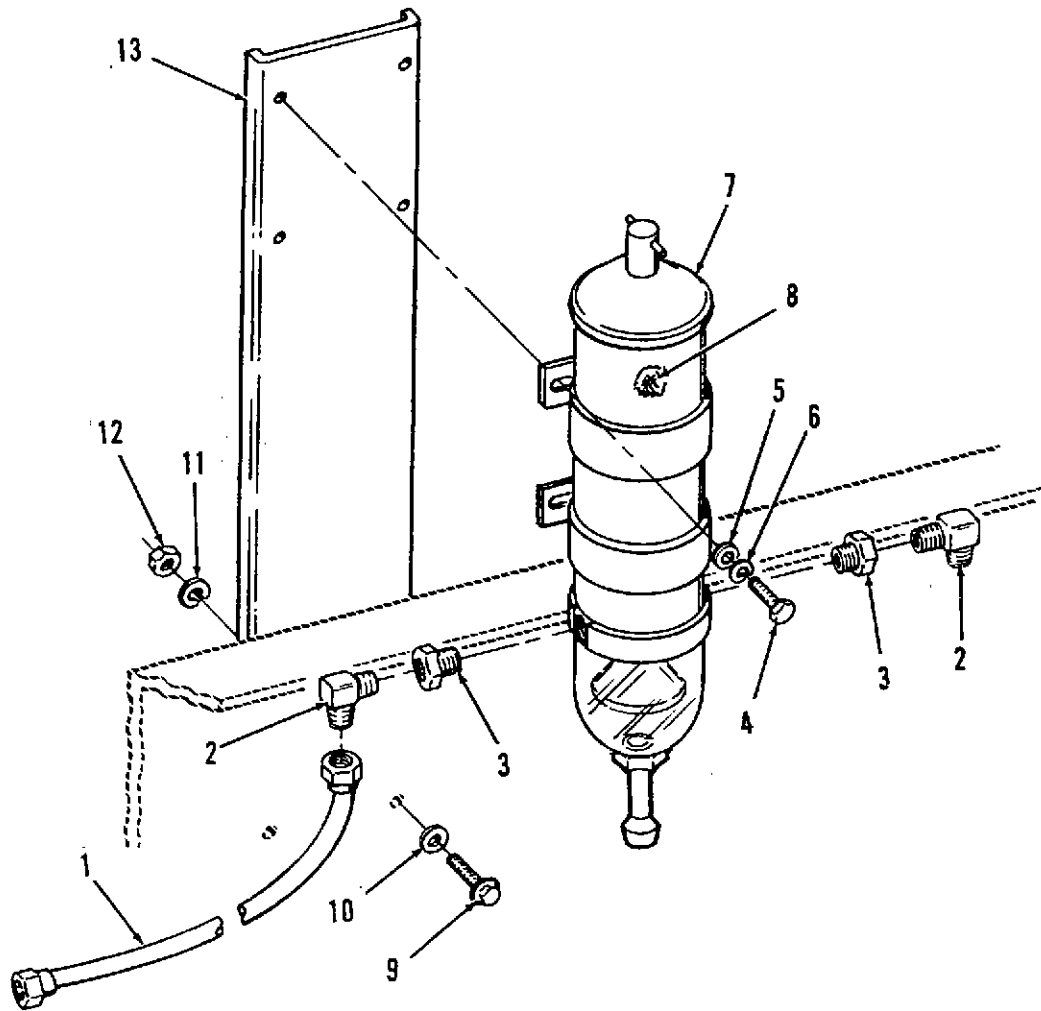
Lube Oil Filter



LS1071

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	501-0382	1	Line, Fuel	9	850-0050	3	Washer, Lock - Spring (3/8")
2	502-0682	1	Nipple, Pipe - Hex	10	862-0003	3	Nut, Hex (3/8-16)
3	505-0021	1	Bushing, Reducer - Hex	11	122-0524	1	Head, Filter
4	501-0381	1	Line, Fuel	12	122-0526	1	Element, Filter
5	502-0594	1	Adapter, Line to Pipe	13	801-0099	2	Screw, Cap - Hex Head (9/16-18 x 3/4")
6	505-0248	1	Elbow, Pipe - 45 Degree	14	850-0065	2	Washer, Lock - Spring (9/16")
7	502-0277	2	Elbow, Pipe - 90 Degree	15	122-0543	1	Bracket, Mounting
8	800-0053	3	Screw, Cap - Hex Head (3/8-16 x 1-3/4")				

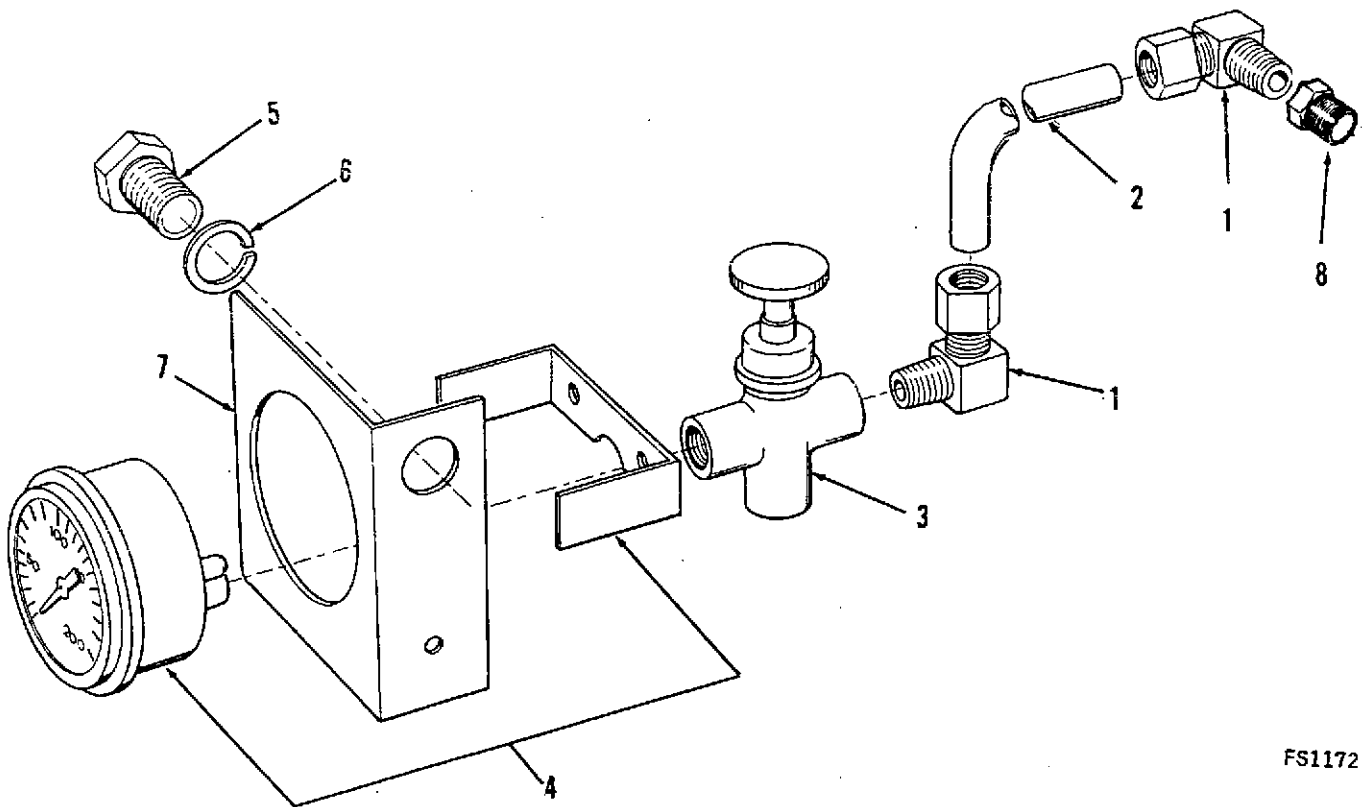
Fuel/Water Separator



FS1333

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	501-0331	1	Line, Fuel	7	149-1625	1	Separator (Includes Element)
2	502-0702	2	Elbow, Pipe - Street - Male - 90 Degree	8	149-1689	1	Element
3	502-0701	2	Adapter, Pipe	9	800-0051	4	Screw, Cap - Hex Head (3/8-16 x 1-1/4")
4	800-0028	4	Screw, Cap - Hex Head (5/16-18 x 1")	10	526-0026	4	Washer, Flat (3/8")
5	526-0022	4	Washer, Flat (5/16")	11	850-0050	4	Washer, Lock - Spring (3/8")
6	850-0045	4	Washer, Lock - Spring (5/16")	12	862-0003	4	Nut, Hex (3/8-16)
				13	149-1716	1	Bracket, Mounting

Fuel Pressure Gauge

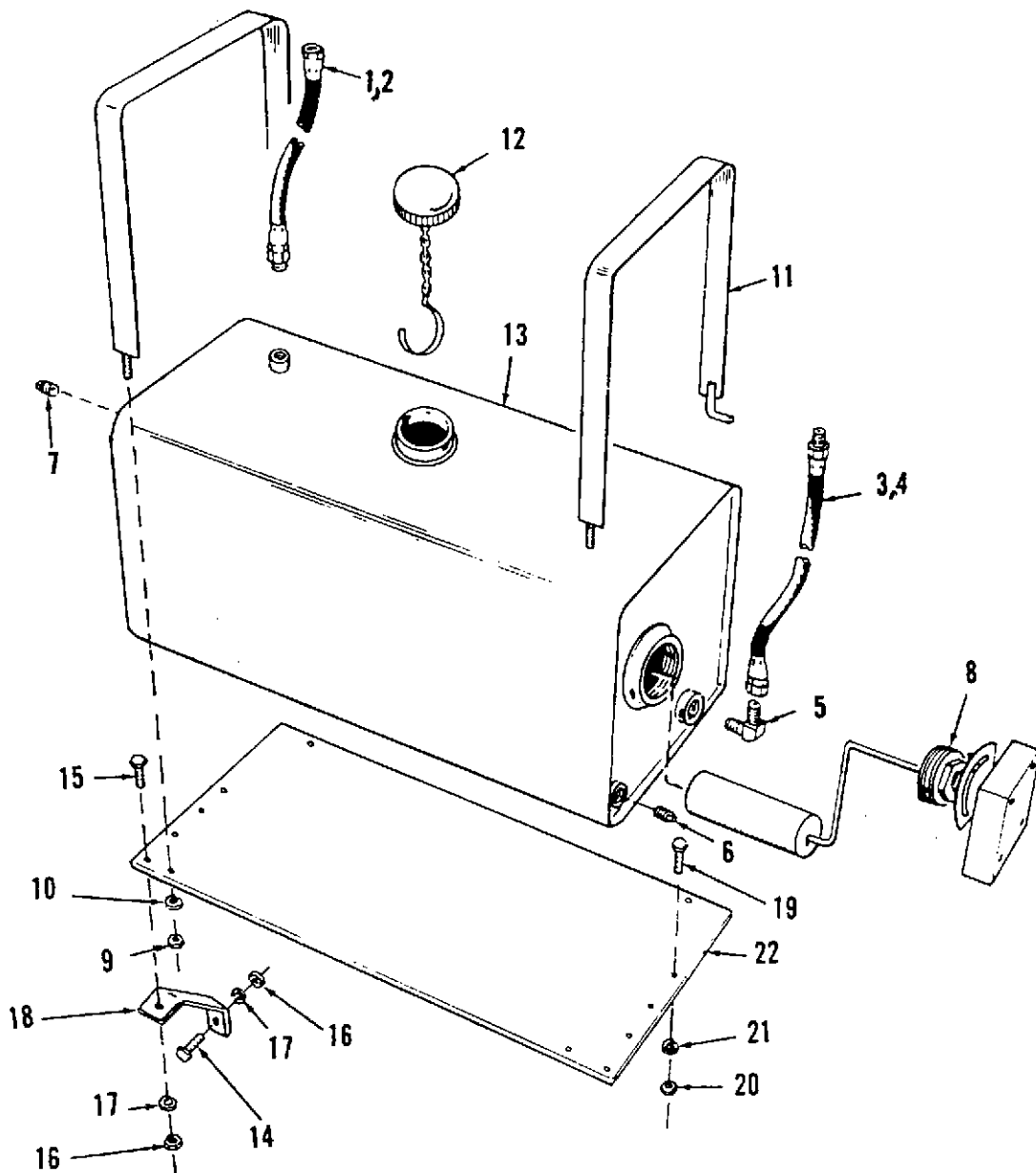


FS1172

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	502-0034	2	Elbow, Tube - 90 Degree (Includes Nut and Ring)
2	370-4003	1	Tube, Copper
3	504-0064	1	Valve, Gate
4	193-0128	1	Gauge, Pressure (Includes Bracket and Hardware)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
5	800-0130	1	Screw, Cap - Hex Head (5/8-11 x 1")
6	850-0070	1	Washer, Lock - Spring (5/8")
7	193-0029	1	Bracket, Mounting
8	505-0007	1	Bushing, Reducer - Hex (1/4 NPT x 1/8 NPT) Used beginning 1988, may be used on early Sets.

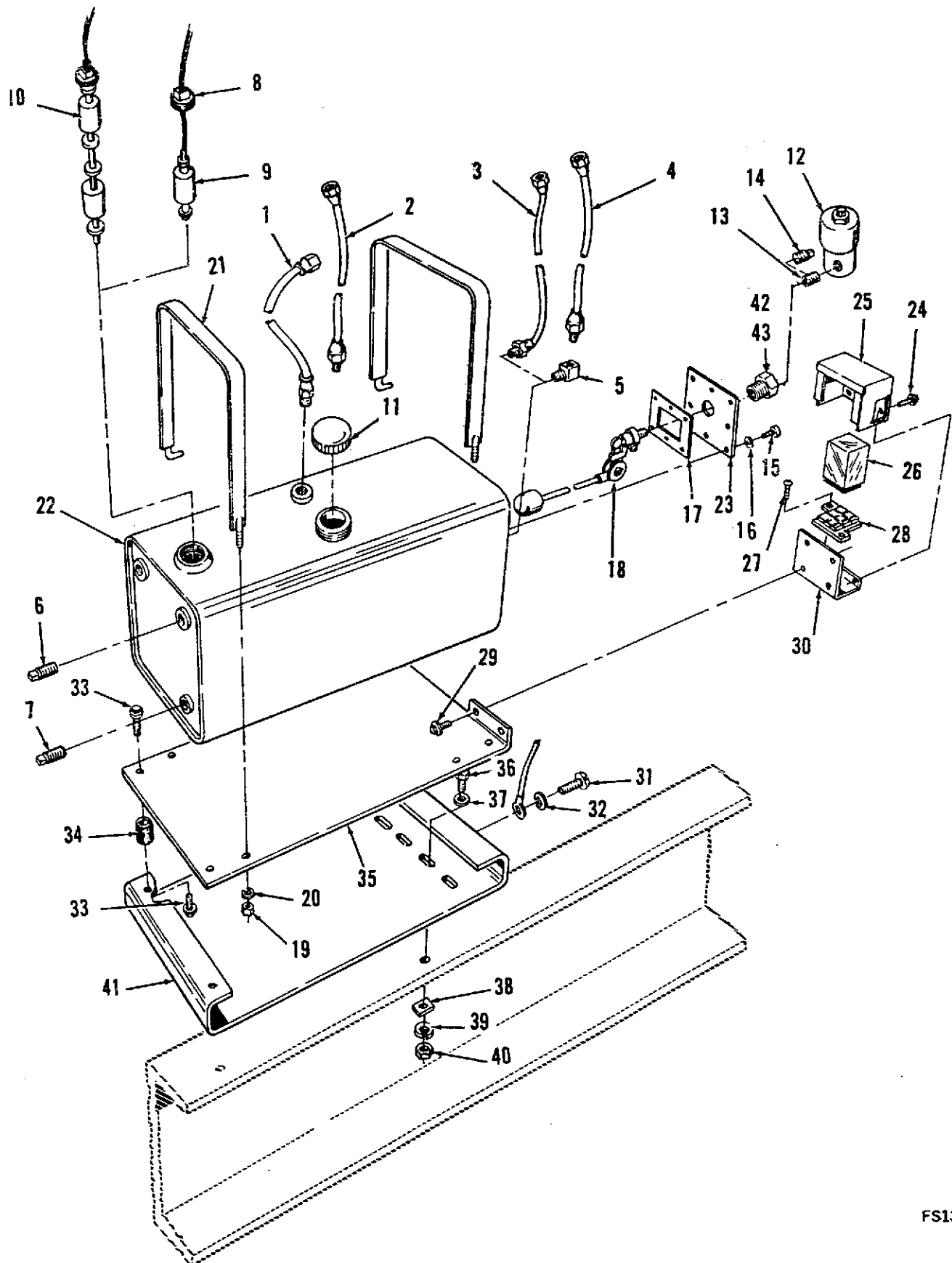
Fuel Tank



FS1171

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	501-0215	1	Line, Fuel (Housed Set)	13	415-0322	1	Tank, Fuel - 8-1/2 Gallon
2	501-0216	1	Line, Fuel (Unhoused Set)	14	800-0007	2	Screw, Cap - Hex Head (1/4-20 x 1")
3	501-0214	1	Line, Fuel (Housed Set)	15	800-0005	2	Screw, Cap - Hex Head (1/4-20 x 3/4")
4	501-0194	1	Line, Fuel (Unhoused Set)	16	862-0001	4	Nut, Hex (1/4-20)
5	502-0133	1	Elbow, Pipe - Street - 90 Degree (Unhoused Set)	17	850-0040	4	Washer, Lock - Spring (1/4")
6	505-0110	1	Plug, Pipe - Square Head	18	415-0329	2	Brace (Unhoused Set)
7	505-0056	1	Plug, Pipe - Square Head	19	800-0007	2	Screw, Cap - Hex Head (1/4-20 x 1")
8	415-0170	1	Switch, Level	20	862-0001	2	Nut, Hex (1/4-20)
9	862-0001	2	Nut, Hex (1/4-20)	21	850-0040	2	Washer, Lock - Spring (1/4")
10	850-0040	2	Washer, Lock - Spring (1/4")	22	415-0330	1	Plate, Mounting
11	415-0331	2	Strap, Hold Down				
12	159-0020	1	Cap, Tank				

Fuel Tank Overhead/Underground Supply

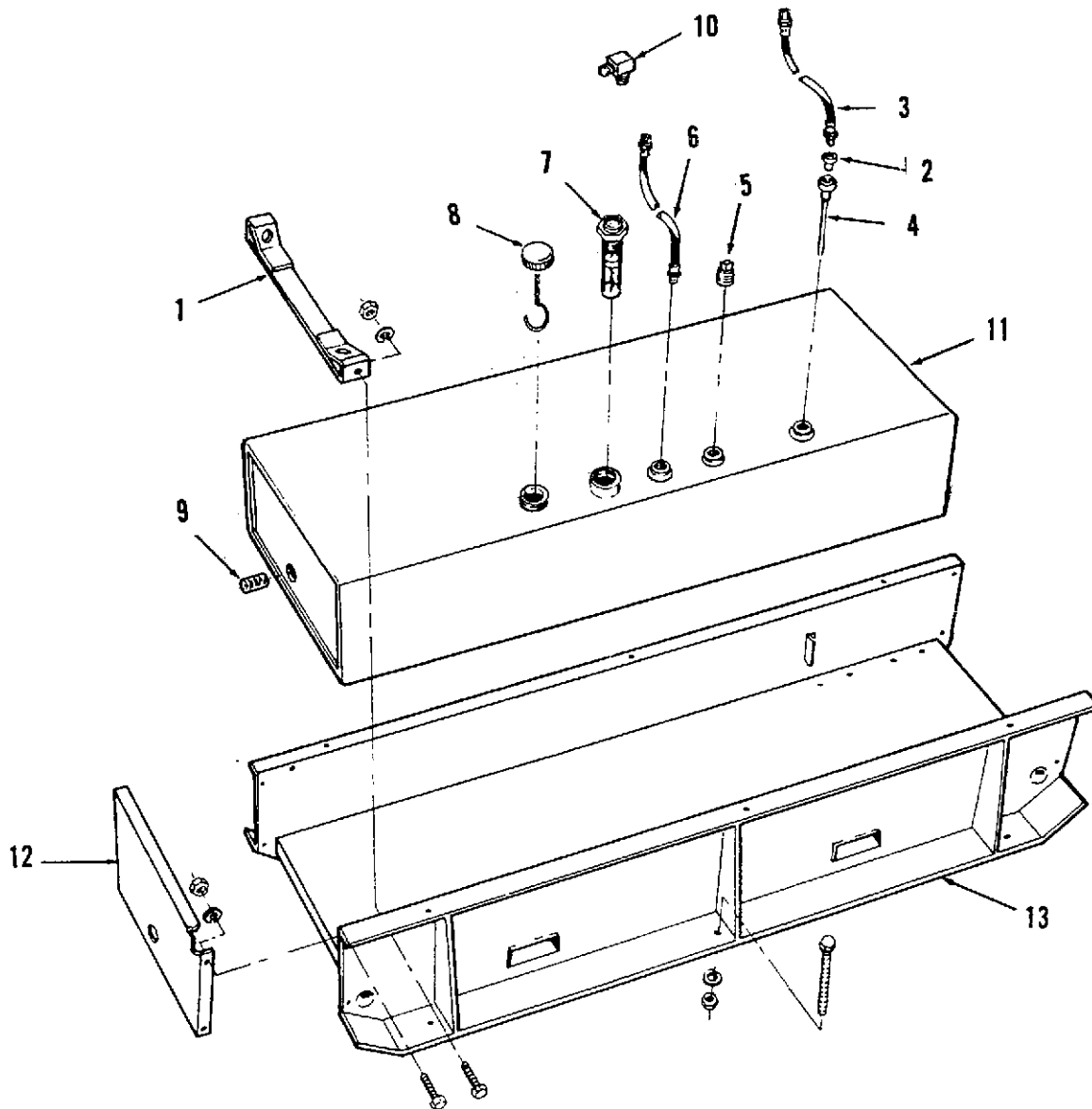


FS1334

Fuel Tank Overhead/Underground Supply

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	501-0215	1	Line, Fuel (Housed Set)	25	415-0464	1	Cover, Access
2	501-0216	1	Line, Fuel (Unhoused Set)	26	307-1056	1	Relay
3	501-0194	1	Line, Fuel (Housed Set)	27	812-0079	2	Screw, Machine - Round Head (#8-32 x 1/2")
4	501-0214	1	Line, Fuel (Unhoused Set)			1	Socket, Relay
5	502-0133	1	Elbow, Pipe - Street - 90 Degree	28	323-0804	1	Screw, Self-locking - Hex (1/4-20 x 5/16")
6	505-0056	2	Plug, Pipe - Square Head	29	821-0008	1	Box
7	505-0110	1	Plug, Pipe - Square Head	30	415-0463	1	Screw, Machine - Round Head (#10-32 x 5/16")
8	505-1050	1	Plug, Pipe - Modified	31	813-0097	1	Washer, Lock - Spring (#10)
9	415-0466	1	Switch, Float (Overhead Supply)			8	Screw, Self-locking - Hex (5/16-18 x 1/2")
10	415-0476	1	Switch, Float (Underground Supply)	32	850-0030	4	Mount, Vibration
11	159-0020	1	Cap, Tank	33	821-0014	1	Plate, Mounting
12	307-1816	1	Valve, Solenoid (Overhead Supply)			2	Screw, Cap - Hex Head (1/2-13 x 1-3/4")
13	505-0098	1	Nipple, Pipe	34	402-0078	2	Washer, Flat (1/2")
14	505-0057	1	Plug, Pipe - Square Head (1970 thru Aug 1982)	35	415-0479	2	Washer, Bevel
				36	800-0093	2	Washer, Lock - Spring (1/2")
15	800-0002	8	Screw, Cap - Hex Head (1/4-20 x 3/8")	37	526-0219	2	Nut, Hex (1/2-13)
16	526-0063	8	Washer, Flat (1/4")	38	526-0278	1	Bracket, Mounting
17	415-0486	1	Gasket	39	850-0060	1	Bushing, Reducer - Hex (Begin Sept 1982)
18	309-0404	1	Valve, Float (Overhead Supply)	40	862-0016	1	Plug, Pipe - Square Head (Begin Sept 1982)
19	862-0001	2	Nut, Hex (1/4-20)	41	415-0478		
20	850-0040	2	Washer, Lock - Spring (1/4")	42	505-0016		
21	415-0509	2	Strap				
22	415-0465	1	Tank, Fuel - 8-1/2 Gallon	43	505-0110		
23	415-0515	1	Plate, Access				
24	821-0004	2	Screw, Self-locking - Hex (#10-32 x 5/16")				

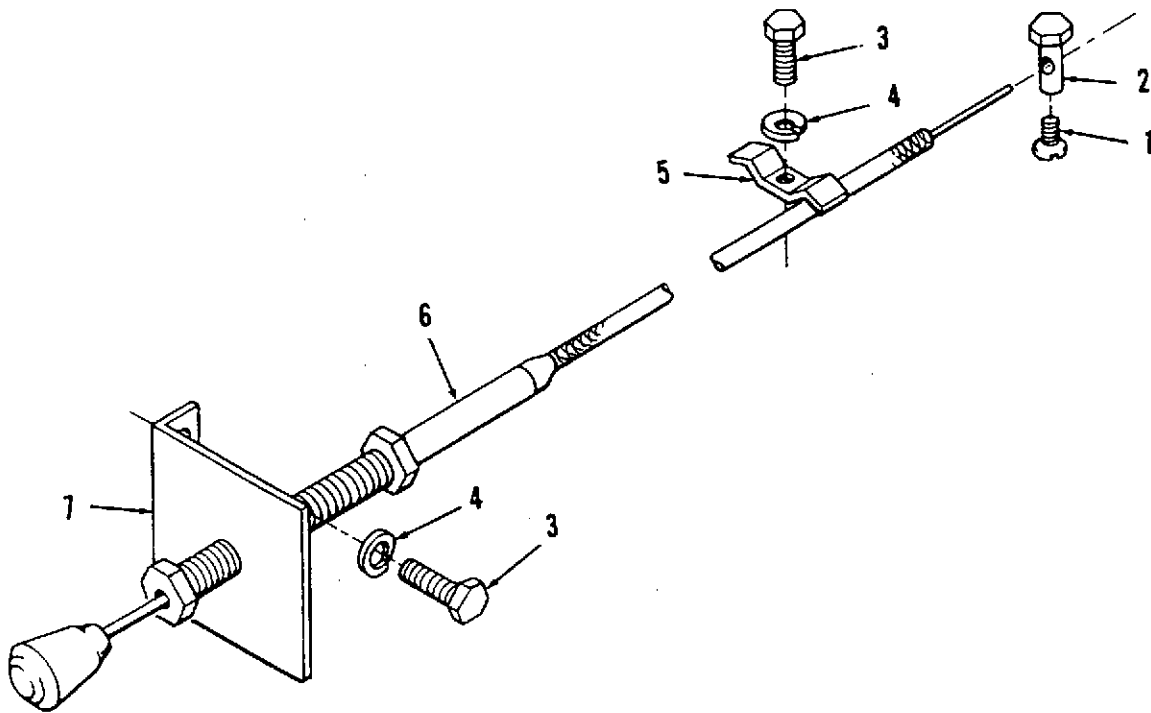
Fuel Tank and Sub Base



FS1337

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	159-1100	2	Strap, Hold Down	9	505-0247	1	Plug, Pipe - Socket Head
	800-0051	4	Screw, Cap - Hex Head (3/8-16 x 1-1/4")	10	159-1101	1	Tank, Fuel
	526-0013	4	Washer, Flat (3/8")	11	403-1743	2	Plate, End
	850-0050	4	Washer, Lock - Spring (3/8")		800-0050	8	Screw, Cap - Hex Head (3/8-16 x 1")
	862-0003	4	Nut, Hex (3/8-16)		850-0050	8	Washer, Lock - Spring (3/8")
2	502-0297	1	Bushing, Reducer - Hex		862-0003	8	Nut, Hex (3/8-16)
3	501-0211	1	Line, Fuel	12	403-1896	1	Base, Sub
4	415-0317	1	Pipe, Suction		800-0156	6	Screw, Cap - Hex Head (3/4-10 x 2-1/4")
5	505-0334	1	Plug, Pipe - Square Head		850-0079	6	Washer, Lock - Spring (3/4")
6	501-0214	1	Line, Fuel		862-0020	6	Nut, Hex (3/4-10)
7	193-0216	1	Gauge				
8	159-0020	1	Cap, Tank				

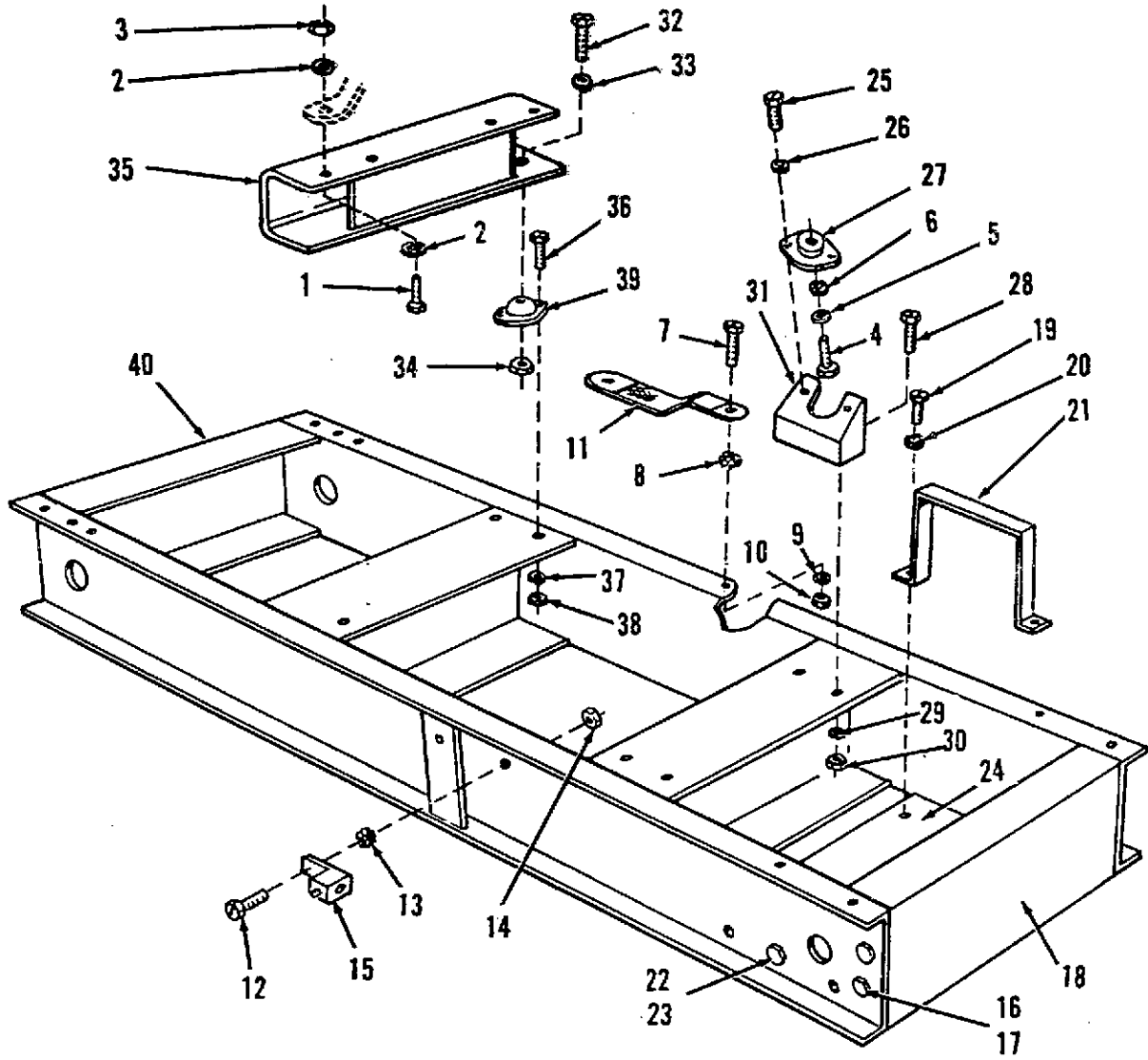
Vernier Throttle



M1179

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	812-0075	1	Screw, Machine - Round Head (#8-32 x 1/2")	4	850-0040	3	Washer, Lock - Spring (1/4")
2	152-0158	1	Swivel	5	152-0036	1	Clamp, Cable
3	800-0005	3	Screw, Cap - Hex Head (1/4-20 x 3/4")	6	152-0120	1	Throttle, Vernier
				7	151-0230	1	Bracket, Mounting

Chassis

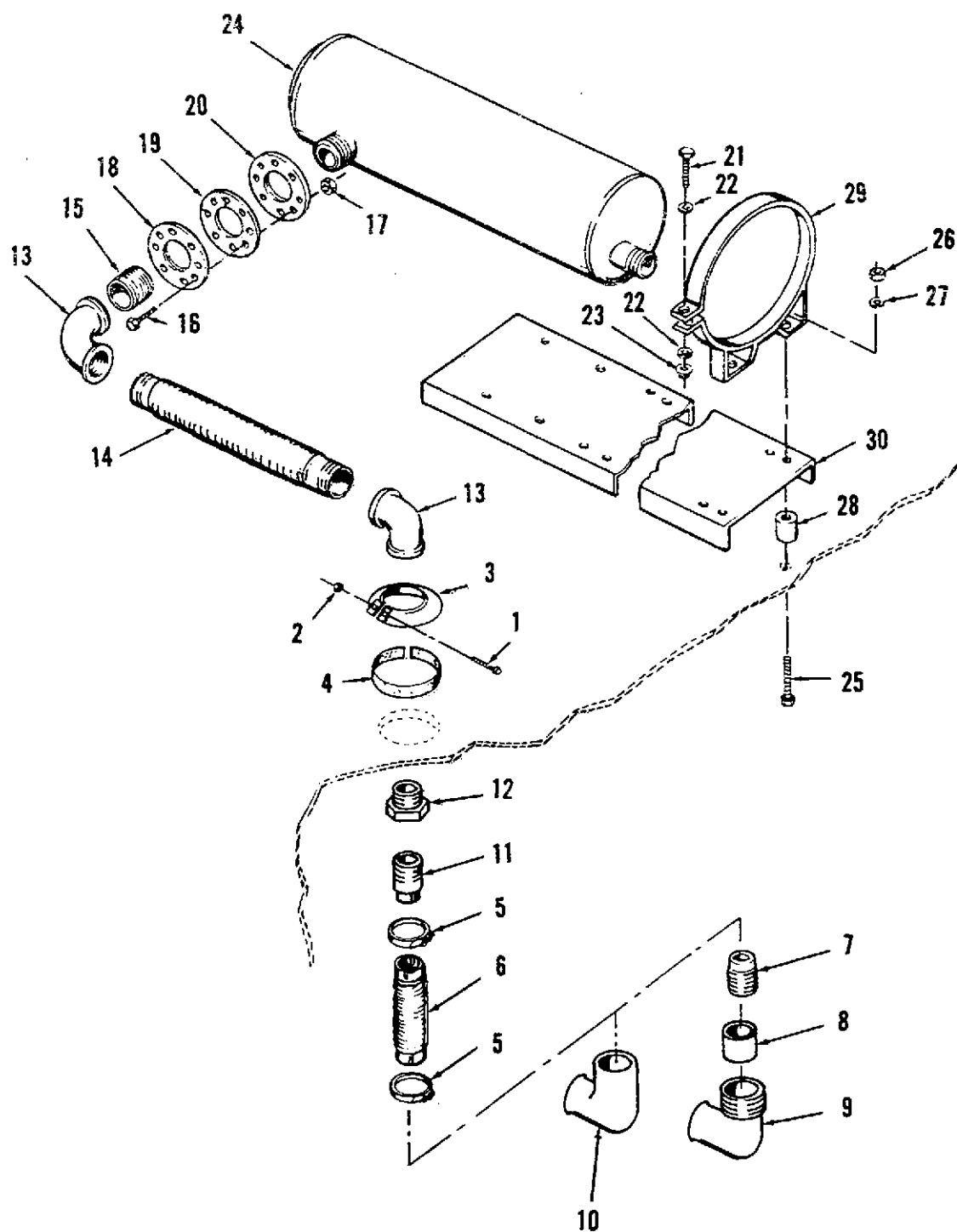


M1297

Chassis

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	800-0132	2	Screw, Cap - Hex Head (5/8-11 x 1-1/2")	20	850-0045	4	Washer, Lock - Spring (5/16")
2	850-0070	2	Washer, Lock - Spring (5/8")	21	416-0635	2	Strap, Hold Down
3	862-0007	2	Nut, Hex (5/8-11)	22	821-0016	6	Screw, Self-locking - Hex (5/16-18 x 3/4")
4	800-0163	2	Screw, Cap - Hex Head (3/4-10 x 4")	23	870-0257	6	Nut, Self-locking - Hex (5/16-18)
5	526-0238	2	Washer, Flat (3/4")	24	416-0673	1	Tray, Battery
6	850-0079	2	Washer, Lock - Spring (3/4")	25	800-0090	4	Screw, Cap - Hex Head (1/2-13 x 1")
7	800-0092	1	Screw, Cap - Hex Head (1/2-13 x 1-1/2")	26	850-0060	4	Washer, Lock - Spring (1/2")
8	856-0013	1	Washer, Lock - EIT (1/2")	27	402-0384	2	Mount, Vibration
9	850-0060	1	Washer, Lock - Spring (1/2")	28	800-0132	4	Screw, Cap - Hex Head (5/8-11 x 1-1/2")
10	862-0016	1	Nut, Hex (1/2-13)	29	850-0070	4	Washer, Lock - Spring (5/8")
11	337-0090	1	Strap, Ground	30	862-0007	4	Nut, Hex (5/8-11)
12	800-0028	1	Screw, Cap - Hex Head (5/16-18 x 1")	31	862-0007	2	Bracket, Mounting
13	856-0008	1	Washer, Lock - EIT (5/16")	32	800-0153	2	Screw, Cap - Hex Head (3/4-10 x 1-1/2")
14	870-0257	1	Nut, Self-locking - Head (5/16-18)	33	850-0079	2	Washer, Lock - Spring (3/4")
15	332-1473	1	Lug, Terminal	34	862-0008	2	Nut, Hex (3/4-10)
16	821-0016	4	Screw, Self-locking - Hex (5/16-18 x 3/4")	35	403-0966	1	Support, Mounting
17	870-0257	4	Nut, Self-locking - Hex (5/16-18)	36	800-0091	4	Screw, Cap - Hex Head (1/2-13 x 1-1/4")
18	403-1198	1	Panel, End	37	850-0060	4	Washer, Lock - Spring (1/2")
19	800-0035	4	Screw, Cap - Hex Head (5/16-18 x 2-1/2")	38	862-0016	4	Nut, Hex (1/2-13)
				39	402-0371	2	Mount, Vibration
				40	403-1133	1	Base, Skid

Exhaust Muffler Commercial

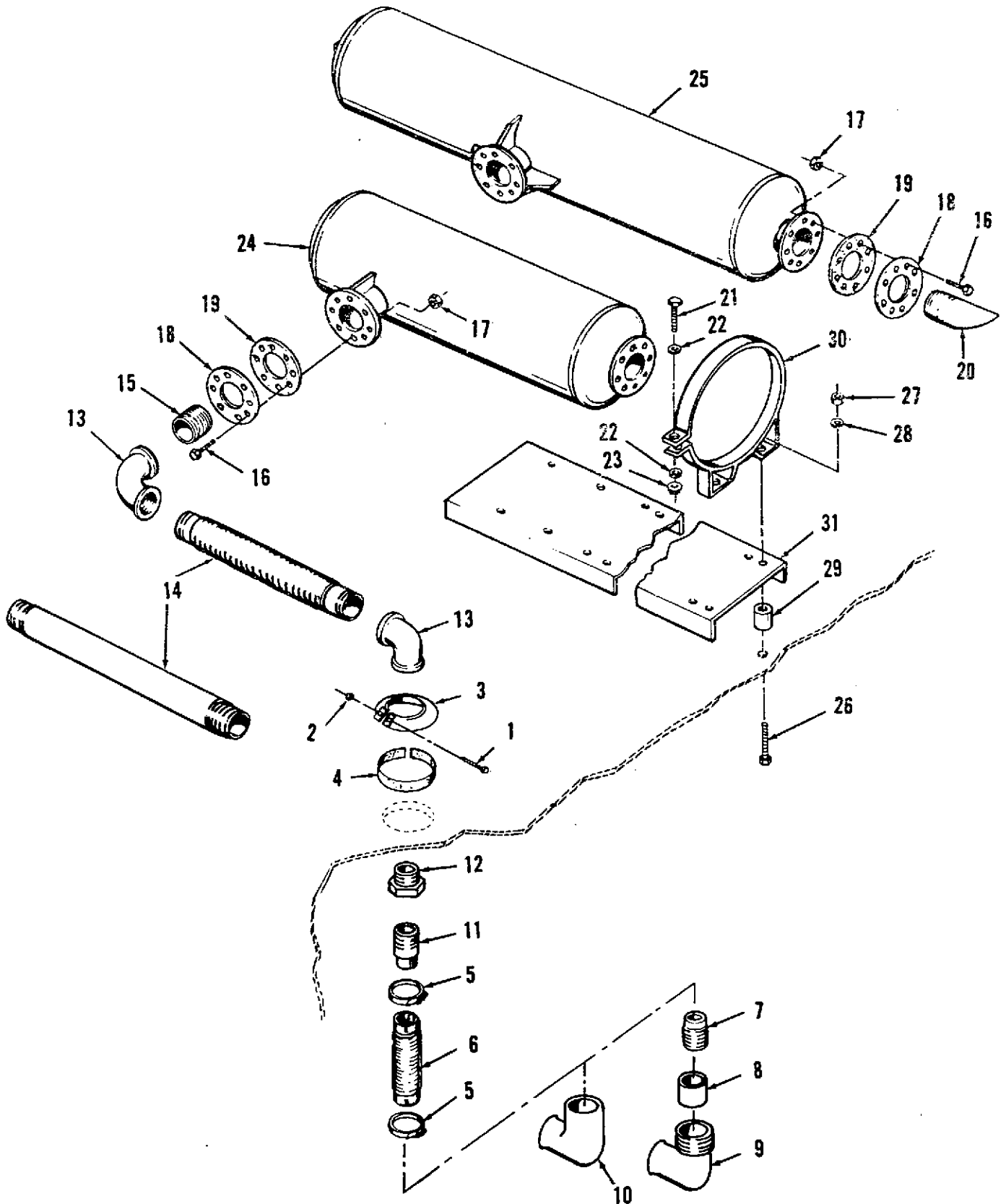


EXS1056

Exhaust Muffler Commerical

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	813-0105	2	Screw, Machine - Round Head (#10-32 x 1")	14			Tube, Exhaust
2	870-0188	2	Nut, Self-locking - Hex (#10-32)		155-1160	1	Standard
3			Shield, Rain		155-1184	1	Stainless Steel
	155-1425	1	Standard	15	505-0740	1	Nipple, Pipe - Short
	155-1639	1	Stainless Steel	16	800-0160	8	Screw, Cap - Hex Head (3/4-10 x 3-1/4")
4	895-0163	1	Strip, Asbestos	17	862-0008	8	Nut, Hex (3/4-10)
5	503-0605	2	Clamp	18	155-0652	1	Flange, Companion - Pipe
6			Tube, Exhaust - Stainless Steel	19	155-0676	1	Gasket
	155-1143	1	10"	20	155-0652	1	Flange, Companion - Pipe
	155-1603	1	13"	21	800-0037	3	Screw, Cap - Hex Head (5/16-18 x 3")
	155-1456	1	16"	22	526-0113	6	Washer, Flat (5/16")
	155-1299	1	21"	23	870-0257	3	Nut, Self-locking - Hex (5/16-18)
	155-1293	1	33"	24	155-1158	1	Muffler, Exhaust
7	155-1275	1	Connector, Tube	25	800-0037	6	Screw, Cap - Hex Head (5/16-18 x 3")
8	505-0784	1	Coupling, Pipe	26	870-0048	6	Nut, Self-locking - Hex (5/16-18)
9	155-1035	1	Elbow, Pipe	27	850-0045	6	Washer, Lock - Spring (5/16")
10	155-1736	1	Elbow, Tube	28	155-1430	6	Spacer
11			Connector, Tube	29	140-0757	3	Band, Mounting
	155-1275	1	6"	30	155-1404	1	Shield, Heat
	155-1929	1	17"				
12	505-0695	1	Bushing, Reducer - Hex				
13	505-0741	2	Elbow, Pipe - 90 Degree				

Exhaust Muffler Residential and Critical

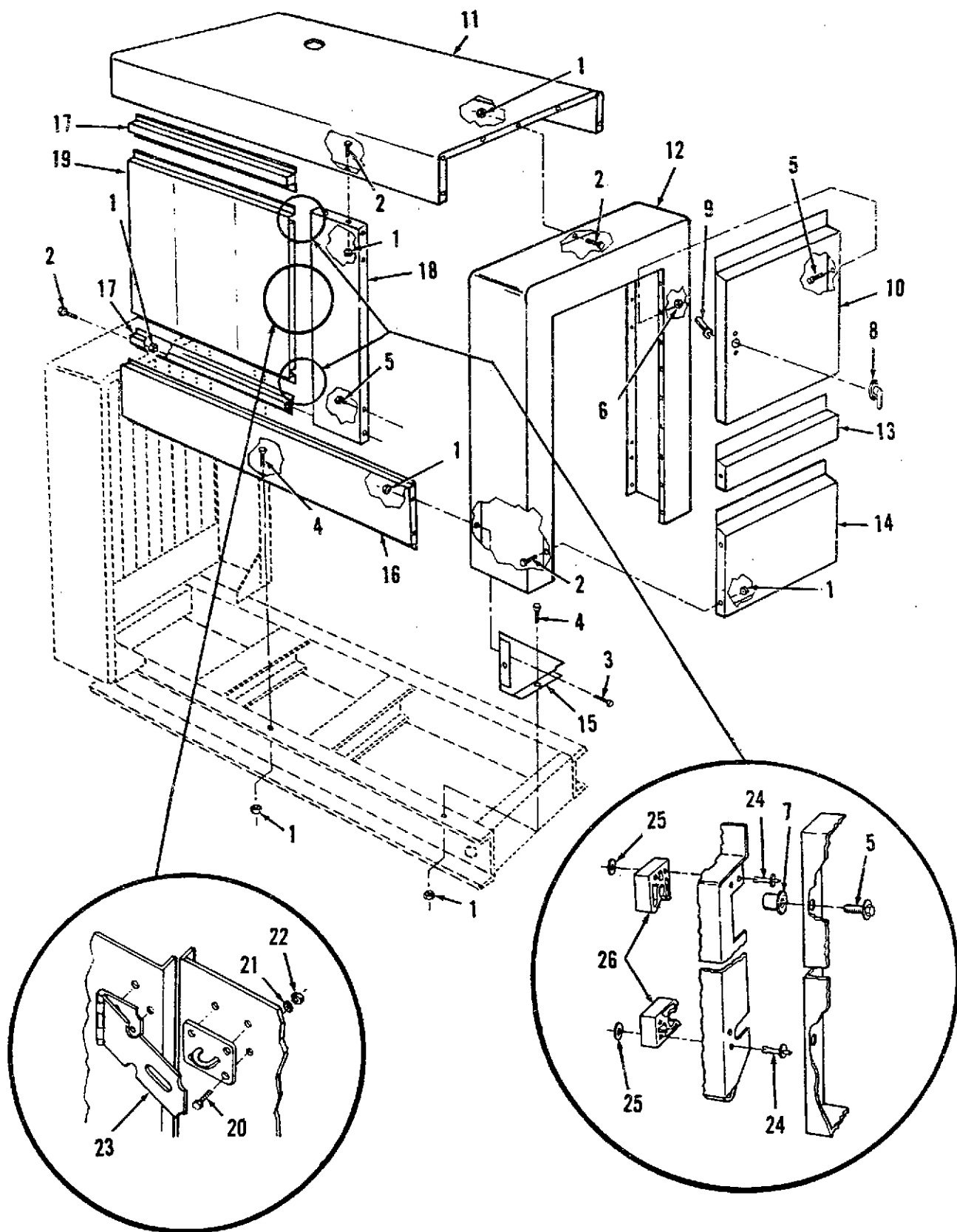


EXS1057

Exhaust Muffler Residential and Critical

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	813-0105	2	Screw, Machine - Round Head (#10-32 x 1")	16	800-0160	16	Screw, Cap - Hex Head (3/4-10 x 3-1/4")
2	870-0188	2	Nut, Self-locking - Hex (#10-32)	17	862-0008	16	Nut, Hex (3/4-10)
3			Shield, Rain	18	155-0652	2	Flange, Companion - Pipe
	155-1425	1	Standard	19	155-0676	2	Gasket
	155-1639	1	Stainless Steel	20	505-0785	1	Nipple, Pipe - Modified
4	895-0163	1	Strip, Asbestos	21	800-0037	3	Screw, Cap - Hex Head (5/16-18 x 3")
5	503-0605	2	Clamp	22	526-0113	6	Washer, Flat (5/16")
6			Tube, Exhaust - Stainless Steel	23	870-0257	3	Nut, Self-locking - Hex (5/16-18)
	155-1143	1	10"				Muffler, Exhaust - Residential
	155-1603	1	13"	24	155-1605	1	Standard
	155-1456	1	16"		155-1727	1	Stainless Steel
	155-1299	1	21"	25			Muffler, Exhaust - Critical
	155-1493	1	22-1/2"		155-1568	1	Standard
	155-1293	1	33"		155-1728	1	Stainless Steel
7	155-1275	1	Connector, Tube	26	800-0037	6	Screw, Cap - Hex Head (5/16-18 x 3")
8	505-0784	1	Coupling, Pipe	27	870-0048	6	Nut, Self-locking - Hex (5/16-18)
9	155-1035	1	Elbow, Pipe	28	850-0045	6	Washer, Lock - Spring (5/16")
10	155-1736	1	Elbow, Tube	29	155-1430	6	Spacer
11			Connector, Tube	30			Band, Mounting
	155-1275	1	6"		140-0751	3	Standard
	155-1929	1	17"		140-1685	3	Stainless Steel
12	505-0695	1	Bushing, Reducer - Hex	31			Shield, Heat
13	505-0741	2	Elbow, Pipe - 90 Degree		155-1400	1	Standard, 67"
14			Tube, Exhaust		155-1729	1	Stainless Steel, 67"
	155-1604	1	Tube, 38"		155-1602	1	Standard, 94"
	155-1619	1	Tube, 55"		155-1730	1	Stainless Steel, 94"
	505-0939	1	Pipe, 43"				
15	505-0740	1	Nipple, Pipe - Short				

Set Housing

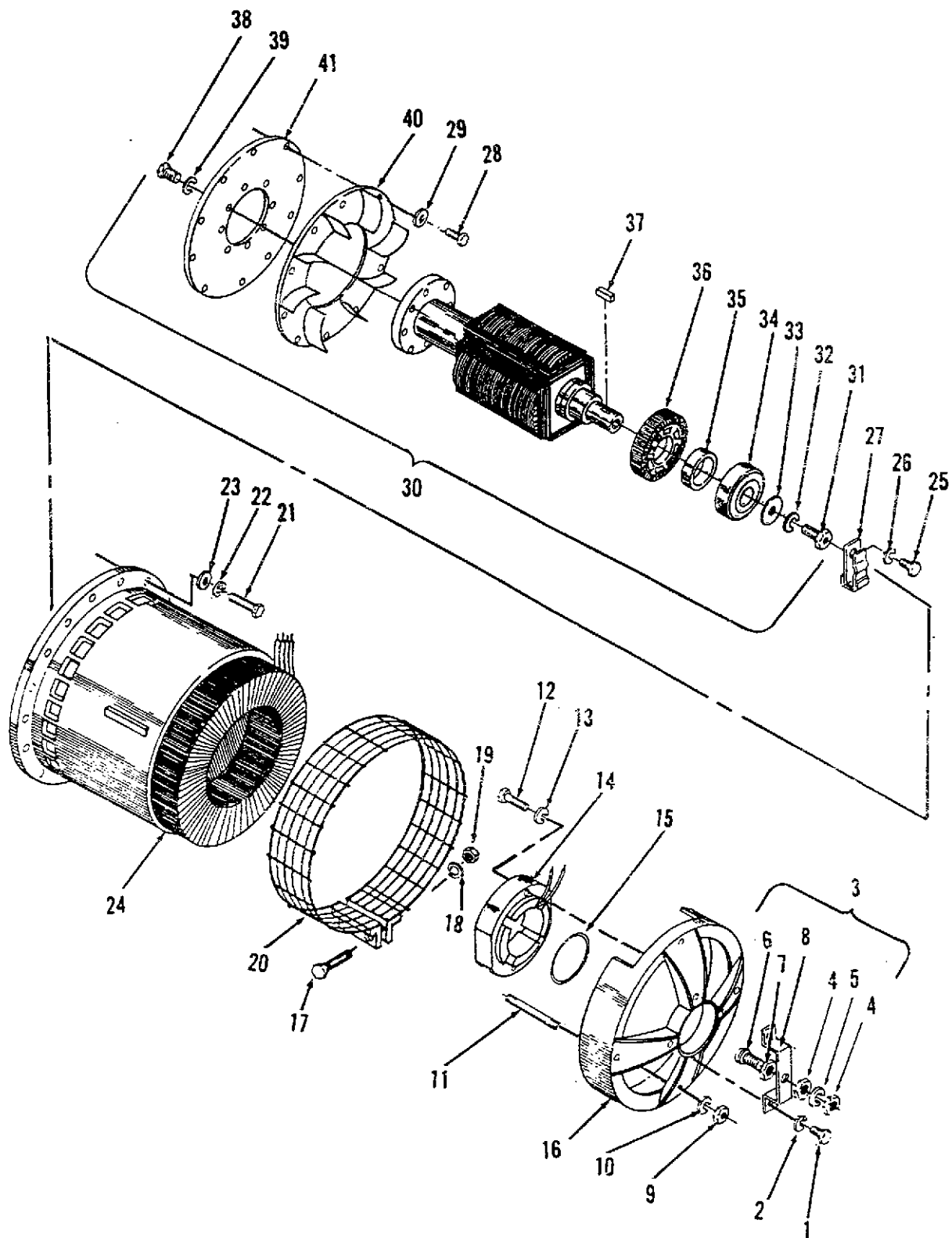


M1004

Set Housing

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	870-0257	62	Nut, Self-locking - Hex (5/16-18)	11	405-2222	1	Panel, Top
2	821-0014	48	Screw, Self-locking - Hex (5/16-18 x 1/2")	12	405-1883	1	Panel, Rear
3	821-0016	8	Screw, Self-locking - Hex (5/16-18 x 3/4")	13	405-1858	2	Panel, Louver - Rear
4	800-0030	6	Screw, Cap - Hex Head (5/16-18 x 1-1/4")	14	405-1856	1	Panel, Lower - Rear
5	821-0010	20	Screw, Self-locking - Hex (1/4-20 x 1/2")	15	405-2016	4	Bracket, Mounting
6	870-0212	4	Nut, Self-locking - Hex (1/4-20)	16	405-2221	2	Panel, Base
7	870-0258	16	Nut, Weld	17	405-2014	8	Panel, Louver
8	406-0157	1	Handle, Lock	18	405-2220	2	Panel, Center
9	406-0089	1	Catch	19	405-2011	4	Door
10	405-1880	1	Door, Rear	20	814-0079	28	Screw, Machine - Flat Head (#8-32 x 1/2")
				21	850-0025	28	Washer, Lock - Spring (#8)
				22	860-0008	28	Nut, Hex (#8-32)
				23	406-0249	4	Set, Hasp
				24	818-0150	32	Rivet, Drive Pin
				25	526-0003	32	Washer, Flat (3/16")
				26	405-1872	16	Clip, Pivot - Door

Generator
155 kW 60 Hz; 130 kW 50 Hz

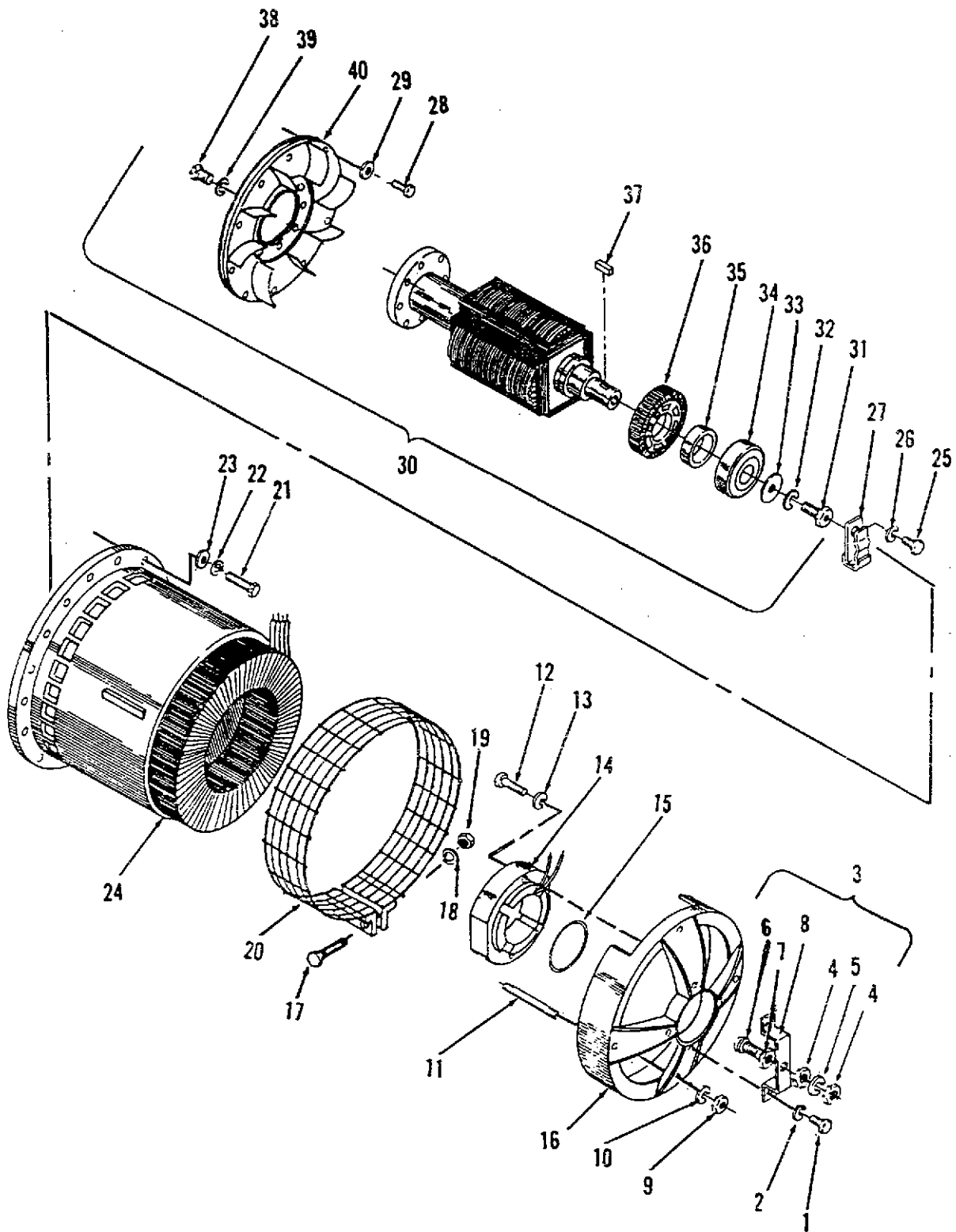


G1116-1

Generator
155 kW 60 Hz; 130 kW 50 Hz

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	800-0003	2	Screw, Cap - Hex Head (1/4-20 x 1/2")	25	800-0048	1	Screw, Cap - Hex Head (3/8-16 x 3/4")
2	800-0009	2	Screw, Cap - Hex Head (1/4-20 x 1-1/2")	26	856-0010	1	Washer, Lock - EIT (3/8")
3	150-1456	1	Contact Assembly - Overspeed Switch (Includes Contact and Mounting Bracket)	27	150-0717	1	Switch, Overspeed
4	862-0001	2	Nut, Hex (1/4-20)	28	805-0032	8	Bolt, Hex Head - Grade 8 (1/2-13 x 1-1/4")
5	853-0013	1	Washer, Lock - ET (1/4")	29	526-0028	8	Washer, Flat (1/2")
6	150-0723	1	Contact, Electrical	30			Rotor Assembly, Generator (Includes Fan, Drive Disk, Bearing, Exciter Rotor)
7	870-0250	1	Nut, Insulated		201-2680	1	Code 6D, 9X, 15
8	150-1356	1	Bracket, Mounting - Contact		201-2698	1	Code 15 Enviromental Protected
9	862-0011	4	Nut, Hex - Grade 8 (3/8-16)		201-2680	1	Code 515
10	850-0050	4	Washer, Lock - Spring (3/8")	31	800-0513	1	Screw, Cap - Hex Head (Modified With Tapped Hole)
11	520-0735	4	Stud (3/8-16 x 5-3/4")	32	850-0079	1	Washer, Lock - Spring (3/4")
12	800-0009	4	Screw, Cap - Hex Head (1/4-20 x 1-1/2")	33	526-0238	1	Washer, Flat (3/4")
13	850-0040	4	Washer, Lock - Spring (1/4")	34	510-0101	1	Bearing, Ball
14			Stator, Exciter	35	232-2102	1	Spacer, Sleeve
	220-2353	1	Standard	36			Rotor, Assembly - Exciter (See Separate Page for Components)
	220-1774	1	Enviromental Protected		201-1739	1	Standard
15	509-0125	1	Seal, Oil - "O" Ring		201-1845	1	Enviromental Protected
16	211-0185	1	Bell, End	37	515-0145	1	Key, Machine
17	800-0009	2	Screw, Cap - Hex Head (1/4-20 x 1-1/2")	38	805-0035	8	Bolt, Hex Head - Grade 8 (5/8-11 x 1-1/2")
18	850-0040	2	Washer, Lock - Spring (1/4")	39	526-0259	8	Washer, Flat - Hardened Steel (5/8")
19	862-0001	2	Nut, Hex (1/4-20)	40	205-0095	1	Fan, Cooling - Generator
20	234-0368	1	Screen, Air	41	232-2037	1	Disk, Drive - Generator
21	800-0073	12	Screw, Cap - Hex Head (7/16-14 x 1-1/2")				
22	850-0055	12	Washer, Lock - Spring (7/16")				
23	526-0032	12	Washer, Flat (7/16")				
24			Stator Assembly, Generator				
	220-2640	1	Code 6D				
	220-1613	1	Code 9X				
	220-1518	1	Code 15				
	220-1779	1	Code 15 Enviromental Protected				
	220-1990	1	Code 515				

Generator
180/175 kW 60 Hz; 150 kW 50 Hz

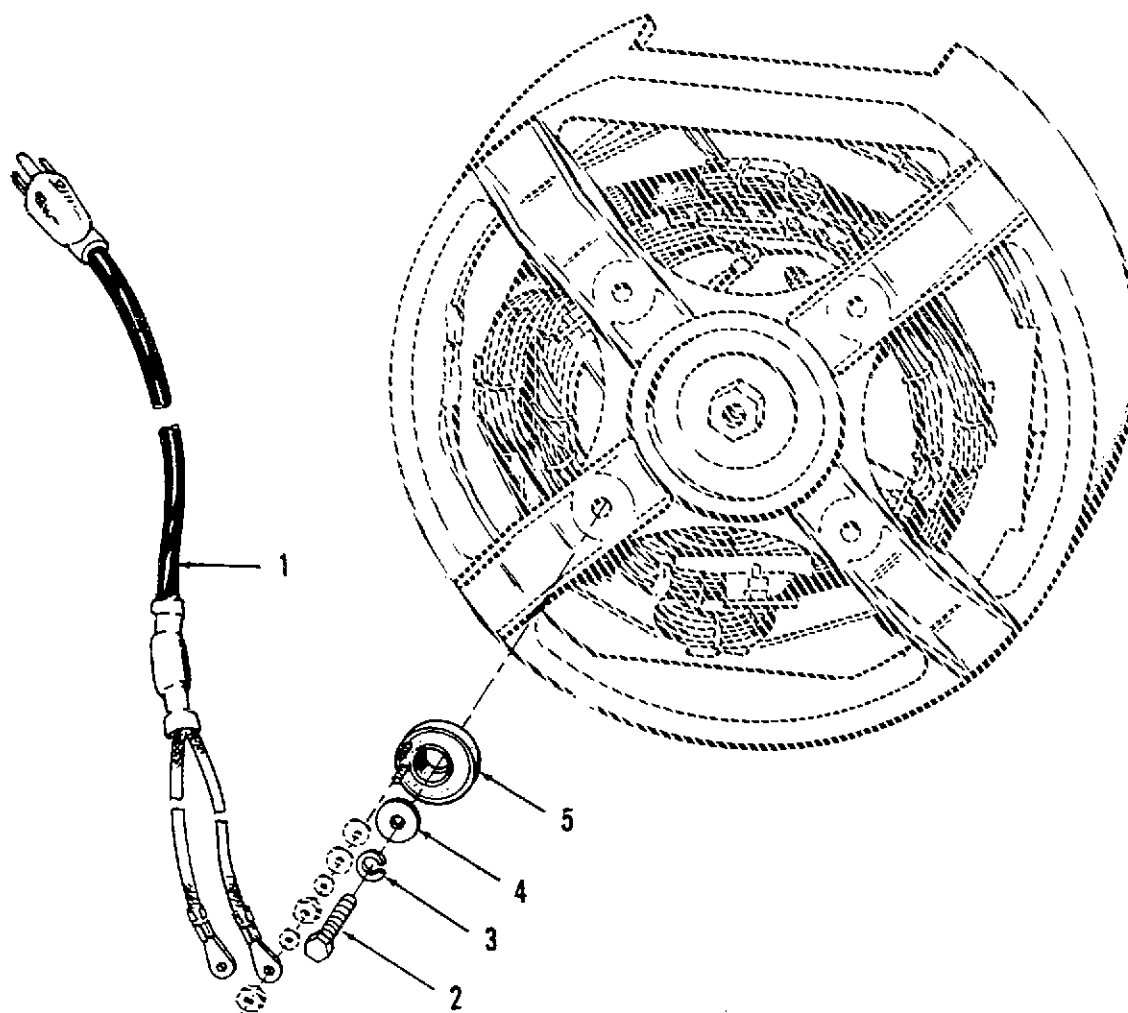


G1116-2

Generator
180/175 kW 60 Hz; 150 kW 50 Hz

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	800-0003	2	Screw, Cap - Hex Head (1/4-20 x 1/2")	25	800-0048	1	Screw, Cap - Hex Head (3/8-16 x 3/4")
2	800-0009	2	Screw, Cap - Hex Head (1/4-20 x 1-1/2")	26	856-0010	1	Washer, Lock - EIT (3/8")
3	150-1456	1	Contact Assembly - Overspeed Switch (Includes Contact and Mounting Bracket)	27	150-0717	1	Switch, Overspeed
4	862-0001	2	Nut, Hex (1/4-20)	28	805-0032	8	Bolt, Hex Head - Grade 8 (1/2-13 x 1-1/4")
5	853-0013	1	Washer, Lock - ET (1/4")	29	526-0028	8	Washer, Flat (1/2")
6	150-0723	1	Contact, Electrical	30			Rotor Assembly, Generator (Includes Disk and Fan Assembly, Bearing, Exciter Rotor)
7	870-0250	1	Nut, Insulated		201-2478	1	Code 6D, 9X, 15
8	150-1356	1	Bracket, Mounting - Contact		201-2536	1	Code 15 Enviromental Protected
9	862-0011	4	Nut, Hex - Grade 8 (3/8-16)		201-2478	1	Code 515
10	850-0050	4	Washer, Lock - Spring (3/8")		201-2536	1	Code 515 Enviromental Protected
11	520-0735	4	Stud (3/8-16 x 5-3/4")	31	800-0513	1	Screw, Cap - Hex Head (Modified With Tapped Hole)
12	800-0009	4	Screw, Cap - Hex Head (1/4-20 x 1-1/2")	32	850-0079	1	Washer, Lock - Spring (3/4")
13	850-0040	4	Washer, Lock - Spring (1/4")	33	526-0238	1	Washer, Flat (3/4")
14			Stator, Exciter	34	510-0101	1	Bearing, Ball
	220-2353	1	Standard	35	232-2102	1	Spacer, Sleeve
	220-1774	1	Enviromental Protected	36			Rotor, Assembly - Exciter (See Separate Page for Components)
15	509-0125	1	Seal, Oil - "O" Ring		201-1739	1	Standard
16	211-0185	1	Bell, End		201-1845	1	Enviromental Protected
17	800-0009	2	Screw, Cap - Hex Head (1/4-20 x 1-1/2")	37	515-0145	1	Key, Machine
18	850-0040	2	Washer, Lock - Spring (1/4")	38	805-0035	8	Bolt, Hex Head - Grade 8 (5/8-11 x 1-1/2")
19	862-0001	2	Nut, Hex (1/4-20)	39	526-0259	8	Washer, Flat - Hardened Steel (5/8")
20	234-0368	1	Screen, Air	40	232-2898	1	Disk and Fan Assembly (Matched Pair)
21	800-0073	12	Screw, Cap - Hex Head (7/16-14 x 1-1/2")				
22	850-0055	12	Washer, Lock - Spring (7/16")				
23	526-0032	12	Washer, Flat (7/16")				
24			Stator Assembly, Generator				
	220-2641	1	Code 6D				
	220-1614	1	Code 9X				
	220-1519	1	Code 15				
	220-1780	1	Code 15 Enviromental Protected				
	220-1991	1	Code 515				
	220-2261	1	Code 515 Enviromental Protected				

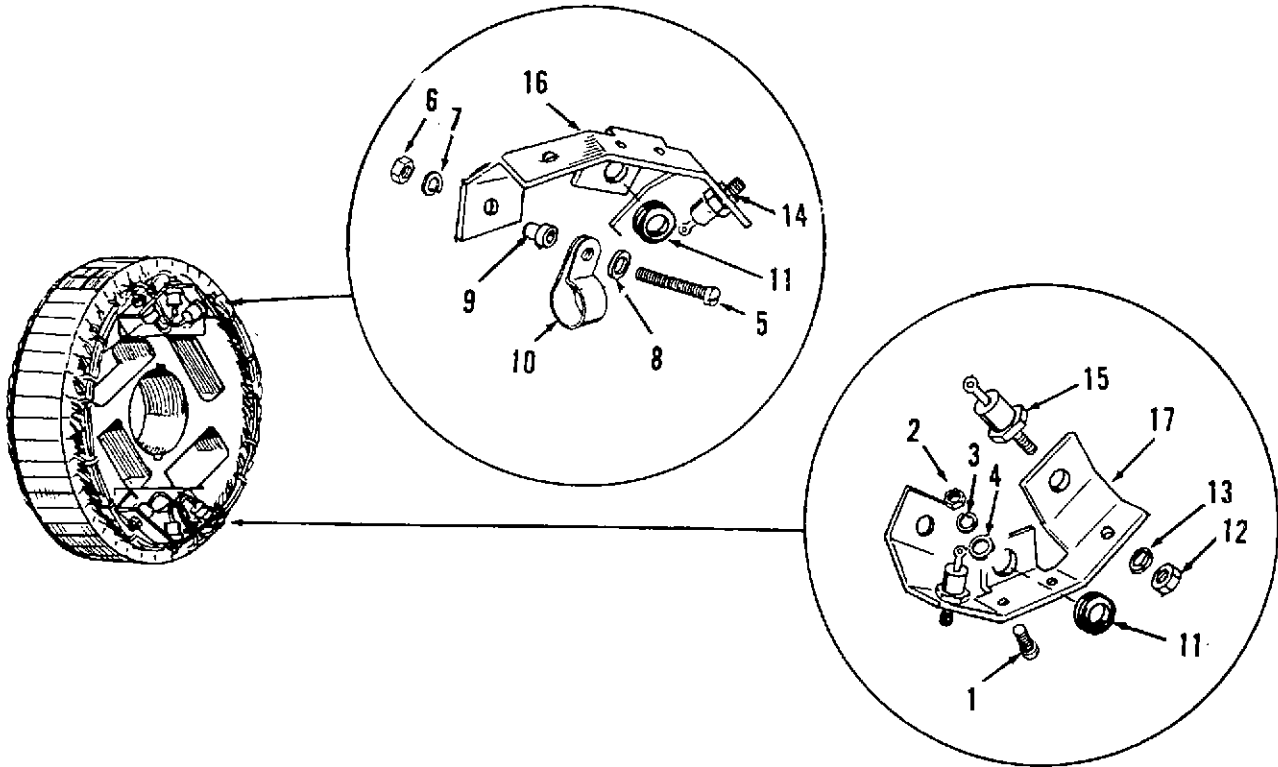
Generator Heater



G1085

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Cable, Electrical (Includes Thermostat)	3	850-0038	1	Washer, Lock - Spring (1/4")
	335-0146	1	120 VAC	4	526-0158	1	Washer, Flat (1/4")
	335-0147	1	240 VAC	5			Heater, Electrical
2	800-0004	1	Screw, Cap - Hex Head (1/4-20 x 5/8")		333-0059	1	125 Watt, 120 VAC
					333-0192	1	200 Watt, 240 VAC

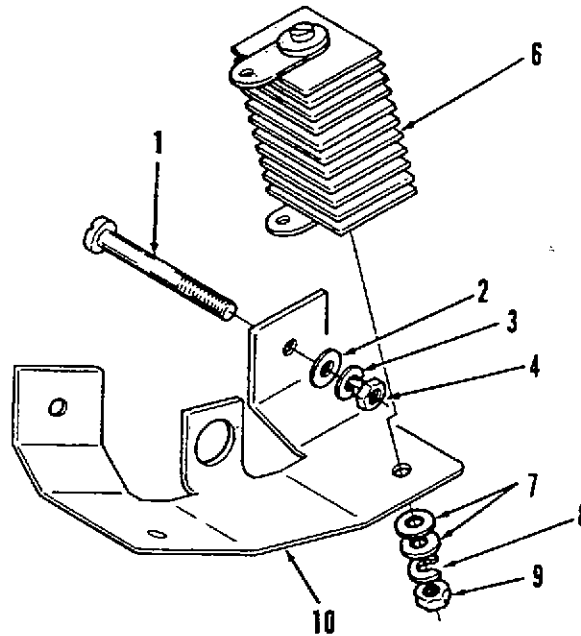
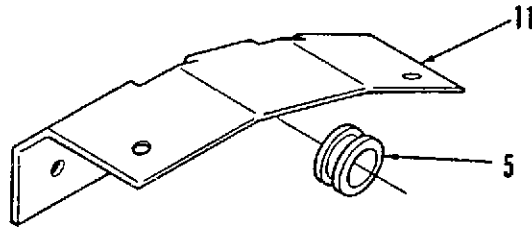
Exciter Rotor Components



G1030-1

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
			Rotor, Exciter (Includes Heat Sinks and Diodes)	9	508-0187	4	Spacer, Stepped
	201-1739	1	Standard	10	332-0050	2	Clamp, Loop
	201-1845	1	Environmental Protected	11	508-0093	2	Grommet
1	813-0100	2	Screw, Machine - Round Head (#10-32 x 1/2")	12	870-0053	6	Nut, Hex (#10-32)
2	870-0053	2	Nut, Hex (#10-32)	13	850-0030	6	Washer, Lock - Spring (#10)
3	850-0030	2	Washer, Lock - Spring (#10)	14			Rectifier, Diode - Positive (CR1, CR2, CR3)
4	526-0008	2	Washer, Flat (#10)		358-0097	3	Standard
5	813-0110	4	Screw, Machine - Round Head (#10-32 x 2")		358-0044	3	Environmental Protected
6	870-0053	4	Nut, Hex (#10-32)	15			Rectifier, Diode - Negative (CR4, CR5, CR6)
7	850-0030	4	Washer, Lock - Spring (#10)		358-0096	3	Standard
8	526-0009	4	Washer, Flat (#10)		358-0043	3	Environmental Protected
				16	363-0054	1	Sink, Heat
				17	363-0055	1	Sink, Heat

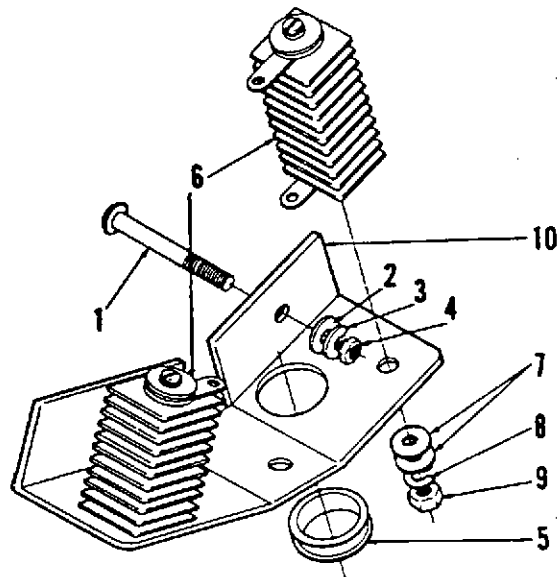
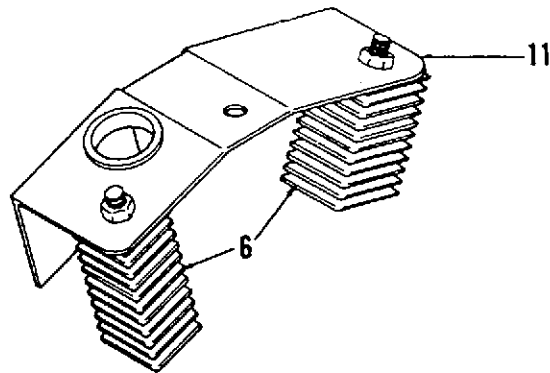
Voltage Suppressor Components



XES1229

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	232-2445	1	Suppressor, Voltage	6	305-0526	1	Set, Voltage Suppressor
1	813-0112	4	Screw, Machine - Round Head (#10-32 x 2-1/2")	7	526-0140	4	Washer, Flat (#10)
2	526-0140	4	Washer, Flat (#10)	8	850-0030	4	Washer, Lock - Spring (#10)
3	850-0030	4	Washer, Lock - Spring (#10)	9	870-0053	4	Nut, Hex (#10-32)
4	870-0053	4	Nut, Hex (#10-32)	10	363-0054	1	Sink, Heat
5	508-0093	2	Grommet	11	363-0055	1	Sink, Heat

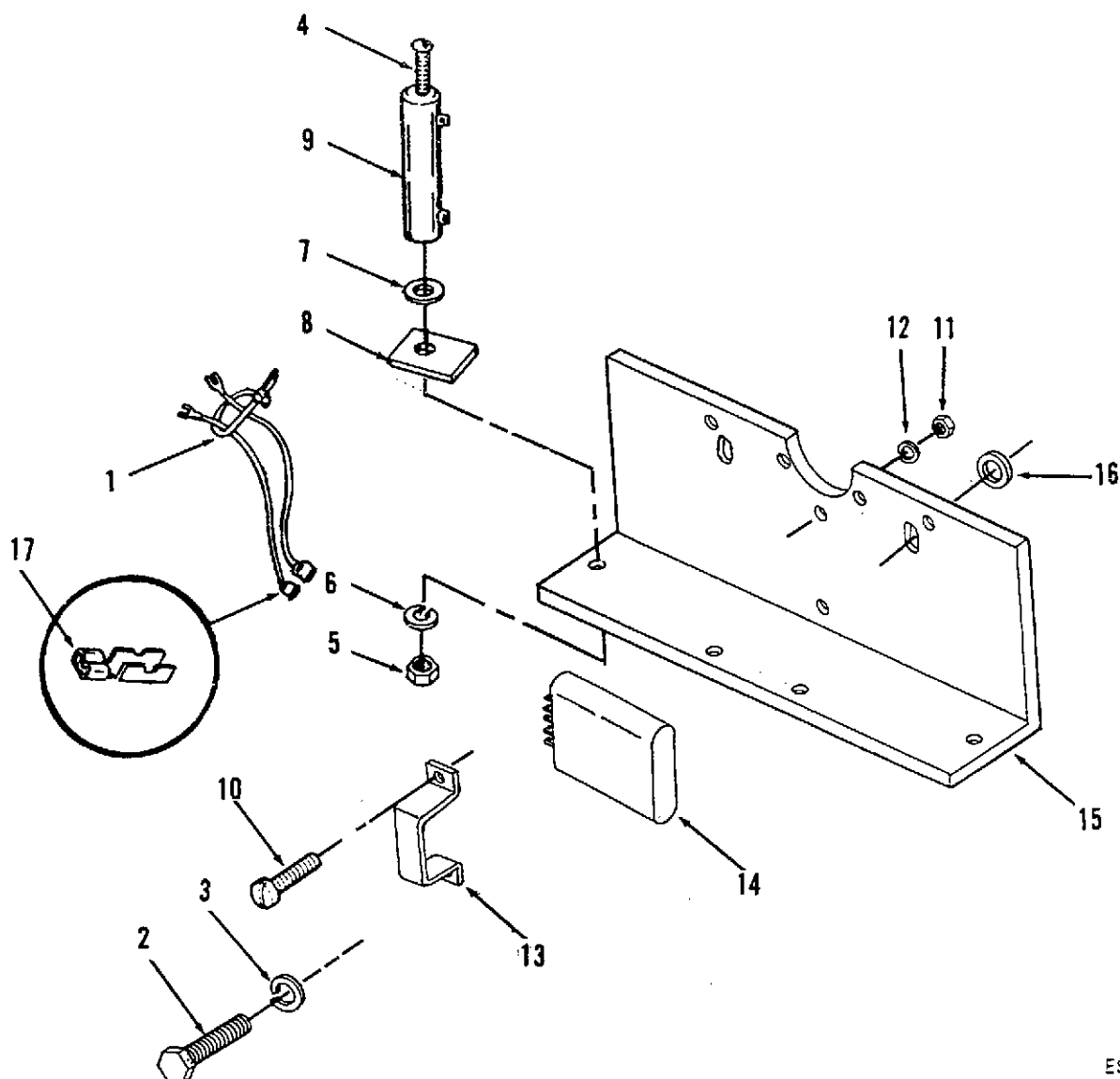
Dual Voltage Suppressor Components



XES1230

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	232-2639	1	Suppressor, Voltage - Dual	6	305-0526	2	Set, Voltage Suppressor
1	813-0112	8	Screw, Machine - Round Head (#10-32 x 2-1/2")	7	526-0140	8	Washer, Flat (#10)
2	526-0140	8	Washer, Flat (#10)	8	850-0030	8	Washer, Lock - Spring (#10)
3	850-0030	8	Washer, Lock - Spring (#10)	9	870-0053	8	Nut, Hex (#10-32)
4	870-0053	8	Nut, Hex (#10-32)	10	363-0025	1	Sink, Heat
5	508-0093	2	Grommet	11	363-0033	1	Sink, Heat

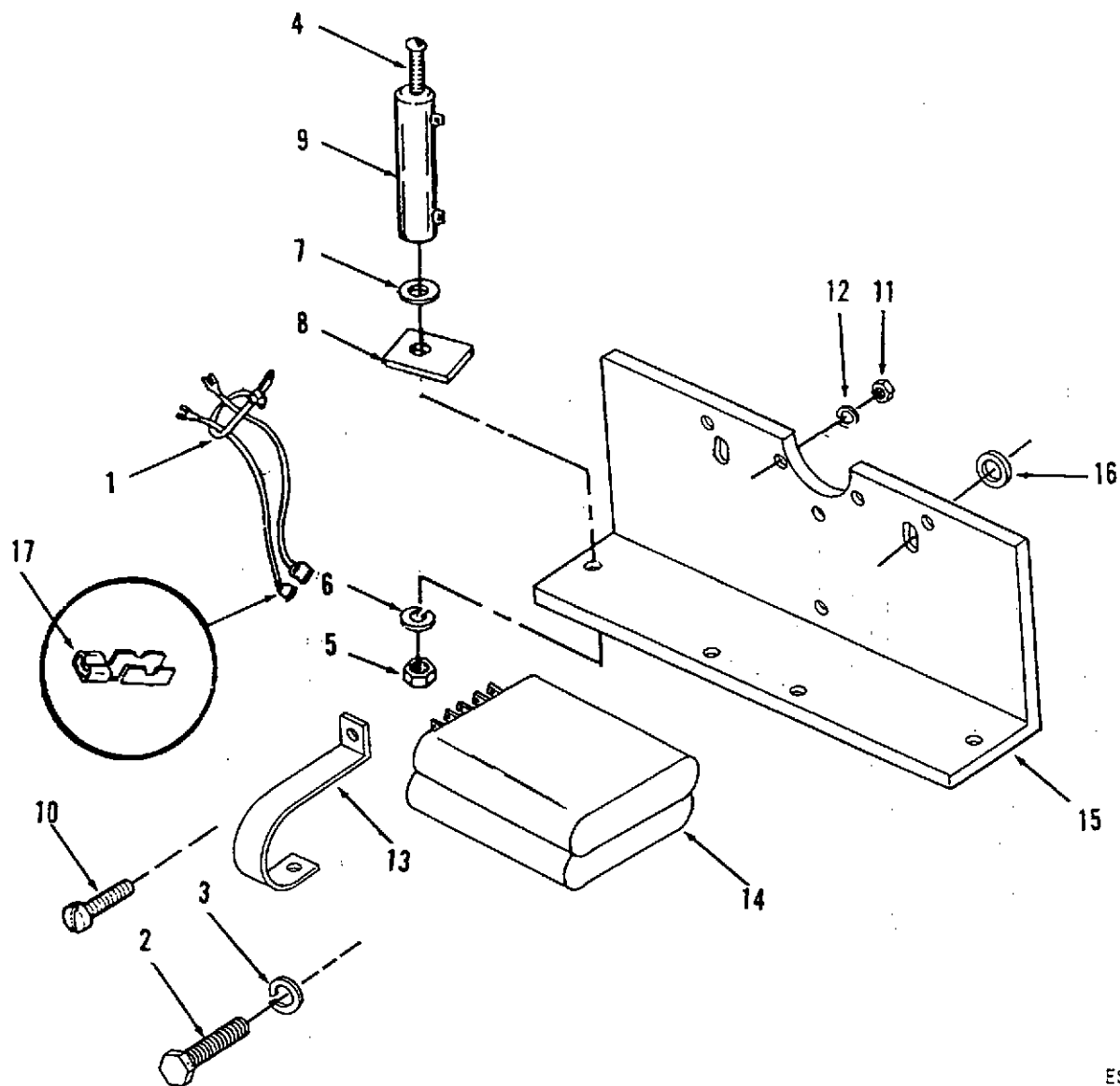
Voltage Regulator Filter



ES1115-1

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	332-0941	5	Tie, Cable	10	813-0098	2	Screw, Machine - Round Head (#10-32 x 3/8")
2	800-0003	2	Screw, Cap - Hex Head (1/4-20 x 1/2")	11	870-0053	2	Nut, Hex (#10-32)
3	850-0040	2	Washer, Lock - Spring (1/4")	12	850-0030	2	Washer, Lock - Spring (#10)
4	812-0165	2	Screw, Machine - Round Head (1/4-20 x 4-1/2")	13	312-0189	1	Bracket, Mounting
5	862-0001	2	Nut, Hex (1/4-20)	14	312-0188	1	Capacitor
6	850-0040	2	Washer, Lock - Spring (1/4")	15	232-2218	1	Bracket
7	304-0427	2	Washer, Centering	16	526-0018	15	Washer, Flat (1/4")
8	304-0292	2	Insulator	17	332-0529	4	Terminals Bare
9	354-0025	1	Resistor		332-1279	8	Terminals Insulated

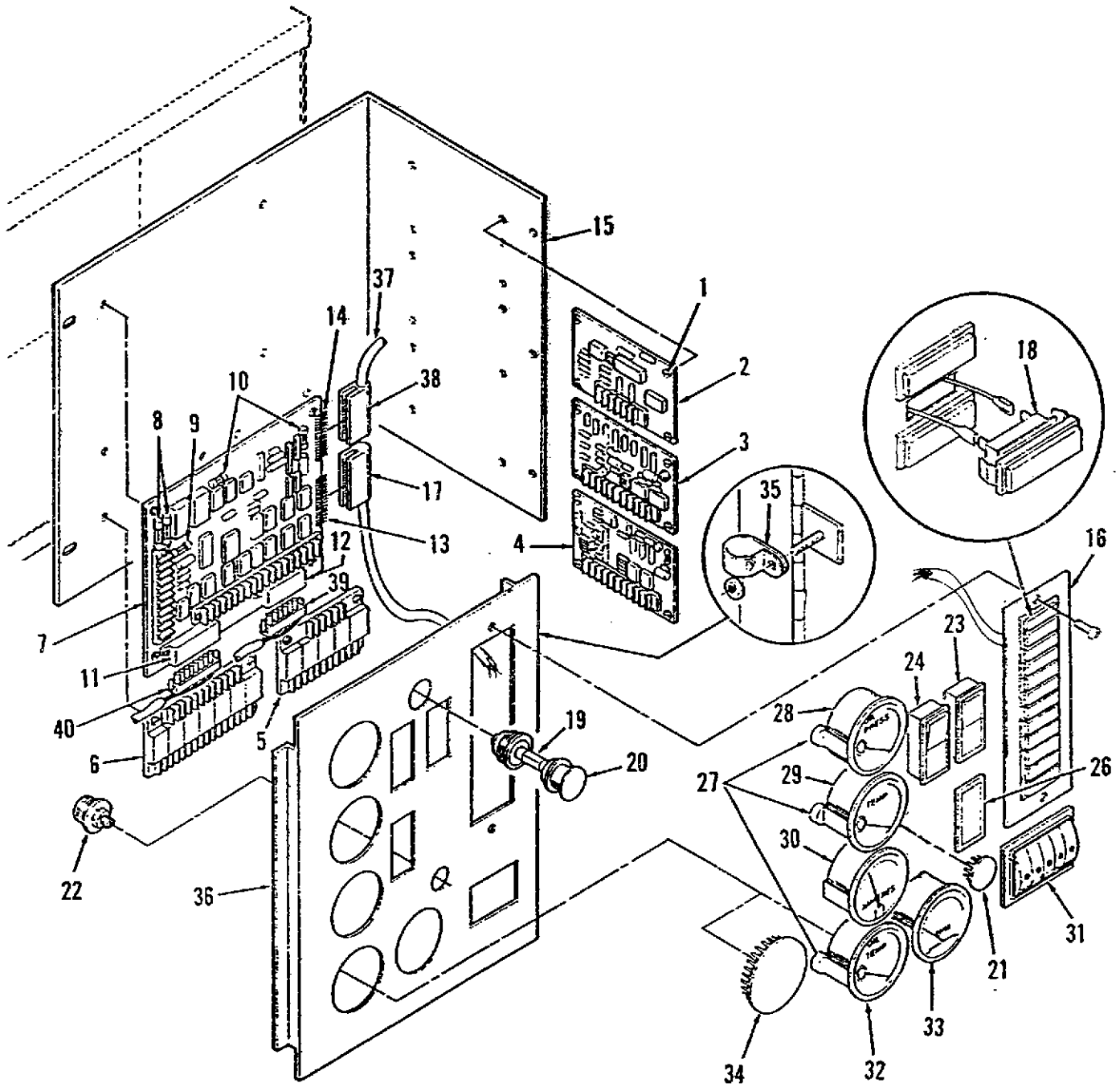
Voltage Regulator Filter Heavy Duty



ES1115-2

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	332-0941	5	Tie, Cable	10	813-0098	4	Screw, Machine - Round Head (#10-32 x 3/8")
2	800-0003	2	Screw, Cap - Hex Head (1/4-20 x 1/2")	11	870-0053	4	Nut, Hex (#10-32)
3	850-0040	2	Washer, Lock - Spring (1/4")	12	850-0030	4	Washer, Lock - Spring (#10)
4	812-0165	2	Screw, Machine - Round Head (1/4-20 x 4-1/2")	13	370-0007	2	Strap, Mounting
5	862-0001	2	Nut, Hex (1/4-20)	14	312-0188	2	Capacitor
6	850-0040	2	Washer, Lock - Spring (1/4")	15	232-2218	1	Bracket
7	304-0427	2	Washer, Machine - Round Head (1/4-20 x 4-1/2")	16	526-0018	15	Washer, Flat (1/4")
8	304-0292	2	Insulator	17	332-0529	8	Terminals Bare
9	354-0025	1	Resistor		332-1279	16	Terminals Insulated

Engine Control
Begin Spec M



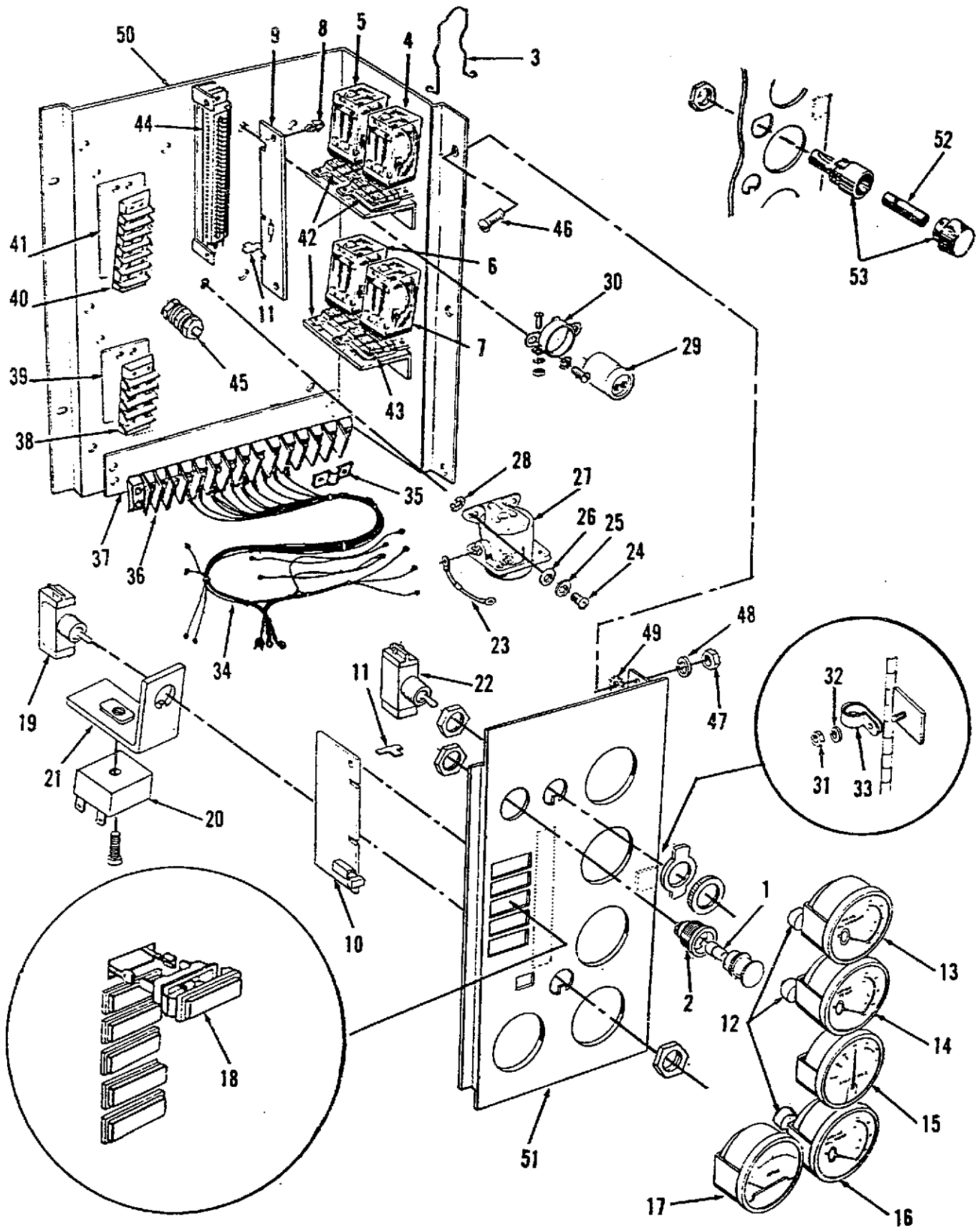
59C

Engine Control Begin Spec M

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	815-0544	24	Screw, Machine - Round Head With IT Lock Washer (#6-32 x 1/2")	17	323-1310	1	Housing, 13 Pin (J3)
2	300-2900	1	Board, Time Delay, Start/Stop - 24 VDC (A15)	18	322-0369-02	13	Contact, Pin
3			Board, Magnetic Sensor, Start Disconnect/Over Speed Sensor (A16)	19	322-0017	1	Lamp, Incandescent - 1/3 Watt, 28 VDC
	300-2903	1	Standard	20	322-0361	1	Lamp, Incandescent - 28 VDC (DS11)
	300-2904	1	Precision	21	517-0131	1	Holder, Lamp
4	300-2906	1	Board, Over-Under Voltage Sensor - 24 VDC (A17)	22	151-0402	1	Plug, Button
5	300-2856	1	Board, Relay - 24 VDC (A13)	23	308-0785	1	Potentiometer (R11)
6	300-2863	1	Board, Relay - 24 VDC (A14)	24	308-0784	1	Switch, Push (S11)
7			Board, Engine Monitor (A11) (Includes Fuses and Connectors)	26	301-6257	1	Switch, Push (S12)
	300-2808	1	24 VDC, 2 Light	27	193-0250	1	Cover
	300-2812	1	24 VDC, 12 Light	28	193-0352	3	Resistor, Gauge (R12)
8	321-0270	2	Fuse, Cartridge - 20 Amp (F1, F2)	29	193-0351	1	Gauge, Pressure - Oil (M11)
9	321-0231	1	Fuse, Cartridge - 15 Amp (F3)	30	302-1790	1	Gauge, Temperature - Water (M12)
10	321-0094	2	Fuse, Cartridge - 5 Amp (F4, F5)	31	302-0885	1	Ammeter (M13)
11	323-1305	1	Connector, 8 Pin (P1)	32	193-0330	1	Meter, Totalizing - Time (M14)
13	323-1309	1	Connector, 13 Pin (P3)	33	302-1873-01	1	Gauge, Temperature - Oil (M15)
14	323-1307	1	Connector, 12 Pin (P4)	34	517-0221	1	Tachometer (M16)
15	301-8851	1	Bracket, Mounting	35	332-0052	1	Plug, Button
	821-0004	4	Screw, Self-locking - Hex (#10-32 x 5/16")	36	870-0131	1	Crimp, Loop
16			Module, Indicator - Fault (A12) (Includes Connector)			1	Nut, Self-locking - Hex (#10-32)
	322-0358-02	1	24 VDC, 2 Light	37	301-9055-01	1	Door, Control
	322-0360-02	1	24 VDC, 12 Light		301-9055-02	1	5 Meter Holes
	815-0385	2	Screw, Machine - Round Head (#6-32 x 1/2")	38	323-1308	1	3 Meter Holes
	870-0183	2	Nut, Self-locking - Hex (#6-32)	39	323-1302	12	Harness, Wiring - DC (Includes Connector)
				40	323-1304	1	Housing, 12 Pin (J4)
					323-1200	6	Contact, Pin
					323-1306	1	*Housing, 6 Pin
					323-1200	8	*Contact, Pin
							*Contact, Pin

* - Parts Included in Engine Wiring Harness

Engine Control
Spec H thru L



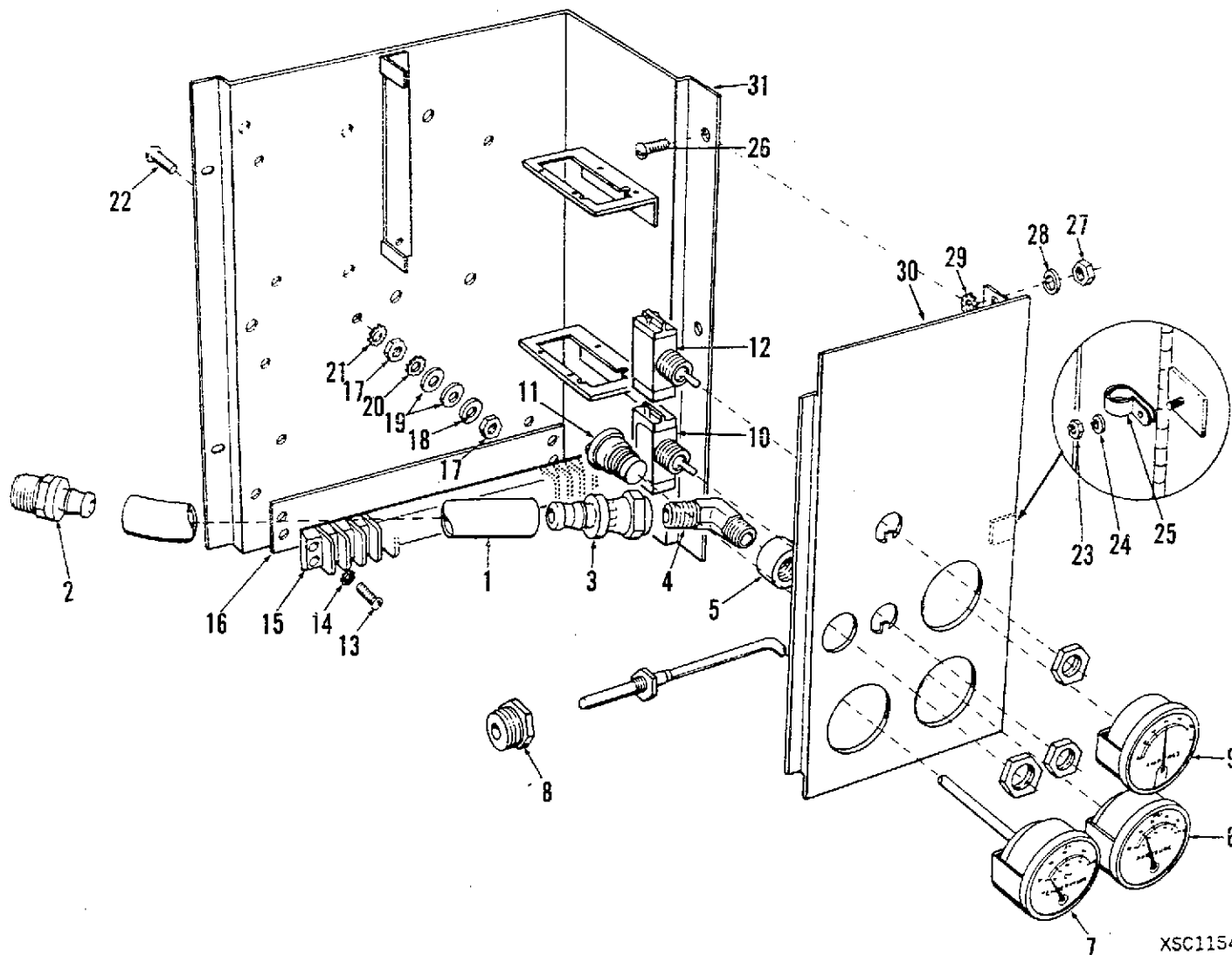
XSC1165

Engine Control Spec H thru L

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	322-0017	1	Lamp, 24 VDC (DS11)	33	332-0051	1	Clamp, Loop
2	322-0149	1	Light, Panel	34			@Harness, Wiring
3	307-1157	4	Spring, Holddown - Relay		338-1065	1	Set with Single Fault Light
4	307-1056	1	Relay, Ignition (K12)		338-1122	1	Set with Single Fault Light and Fuse
5	307-1056	1	Relay, Start Disconnect (K11)		338-1066	1	Set with Five Fault Lights
6	307-1056	1	Relay, Run Alarm (K15)		338-1221	1	Set with Five Fault Lights and Fuse
7	307-1061	1	Relay, Start Protection (K14)				
8	518-0374	1	Fastener, Snap-In	35	332-1043	1	Jumper, Terminal
9			Control, Cranker - 24 VDC (A12)	36			Block, Terminal (TB11)
	300-0751	1	Standard		332-1005	1	20 Place
	300-0715	1	Cycle		332-0795	1	16 Place
10			Monitor, Engine - 24 VDC (A11)	37			Strip, Marker
	300-0680	1	Standard, 1 Fault Light		332-1559	1	20 Place
	300-0731	1	Penn State, 1 Fault Light		332-1271	1	16 Place
	300-0682	1	Standard, 5 Fault Light	38	332-0537	1	Block, Terminal (TB1)
11	332-1276	2	Plug, Keying	39	332-1239	1	Strip, Marker - 4 Place
12	193-0250	3	Resistor, Gauge (R11,R12,R13)	40	332-0699	1	Block, Terminal - 6 Place
13			Gauge, Pressure - Oil - 12 VDC (M11)	41	332-1240	1	Strip, Marker - 6 Place
	193-0243	1	Begin 1977	42	323-0765	3	Socket, Relay (Less Terminals)
	193-0107	1	Thru 1976		332-1280	11	Terminal
14			Gauge, Temperature - Water 12 VDC (M12)	43	323-0765	1	Socket, Relay (Less Terminals and Keying Plug)
	193-0245	1	Begin 1977		332-1280	8	Terminal
	193-0106	1	Thru 1976		815-0392	1	Plug, Keying
15	302-1362	1	Ammeter (M13)	44	332-1271	1	Housing, Terminal
16			Gauge, Temperature - Oil - 12 VDC (M14)	45	332-1269	22	Terminal
	193-0248	1	Begin 1977				Terminal, Ground
	193-0187	1	Thru 1976		871-0010	2	(Includes Parts Marked *)
17	302-0749	1	Tachometer (M15)		850-0030	1	*Nut, Hex (#10-32)
18			Light, Indicator - 28 VDC		526-0062	2	*Washer, Lock - Spring (#10)
	322-0119	1	Overcrank (DS12)		853-0008	1	*Washer, Flat (#10)
	322-0120	1	Low Oil Pressure (DS14)		856-0003	1	*Washer, Lock - ET (#10)
	322-0121	1	High Engine Temperature (DS15)		815-0203	1	*Washer, Lock - EIT (#10)
	322-0122	1	Low Engine Temperature (DS16)				*Screw, Machine - Round Head (#10-32 x 7/8")
	322-0123	1	Overspeed (DS13)	46	815-0026	5	Screw, Machine - Truss Head (#10-32 x 3/8")
	322-0129	1	Fault (DS12)	47	870-0053	1	Nut, Hex (#10-32)
	322-0315	1	Switch Off (DS17)	48	850-0030	1	Washer, Lock - Spring (#10)
	322-0137	1	Blank, No Legend	49	856-0003	1	Washer, Lock - ET (#10)
19			Switch, Toggle - Selector (S12)	50	301-3253	1	Bracket, Mounting
	308-0138	1	Standard	51			Panel, Control
	308-0327	1	Penn State				Single Fault Light Control
20	333-0194-02	1	Flasher - 24 VDC (S13)		301-3467	1	3 Meters and No Panel Light
	813-0105	1	Screw, Machine - Round Head (#10-32 x 1")		301-4572	1	3 Meters, 1 Panel Light and 1 Fuse
21	301-6053	1	Bracket, Mounting - Flasher		301-3165	1	3 Meters, 1 Panel Light
22	308-0002	1	Switch, Toggle (S11)		301-3286	1	4 Meters, 1 Panel Light
23	357-0018	1	Diode (With Terminals)		301-3396	1	5 Meters, 1 Panel Light
24	813-0098	2	Screw, Machine - Round Head (#10-32 x 3/8")		301-9380	1	5 Meters, 1 Panel Light and 1 Fuse
25	850-0030	2	Washer, Lock - Spring (#10)				Five Fault Light Control
26	526-0009	2	Washer, Flat (#10)		301-3267	1	3 Meters, 1 Panel Light
27	307-0061	1	Relay, Starting - 24 VDC (K13)		301-4831	1	3 Meters, 1 Panel Light and 1 Fuse
28	856-0003	2	Washer, Lock - EIT (#10)		301-3268	1	4 Meters, 1 Panel Light
29	356-0072	1	Capacitor (C2)		301-6152	1	4 Meters, 1 Panel Light and 1 Fuse
	812-0061	1	Screw, Machine - Round Head (#6-32 x 3/8")		301-3166	1	5 Meters, 1 Panel Light
	853-0003	1	Washer, Lock - ET (#6)		301-6166	1	5 Meters, 1 Panel Light and 1 Fuse
	860-0006	1	Nut, Hex (#6-32)				Six Fault Light Control
30	356-0070	1	Clamp, Mounting - Capacitor		301-4898	1	3 Meters, 1 Panel Light
	812-0063	2	Screw, Machine - Round Head (#6-32 x 1/2")	52	321-0181	1	Fuse, Cartridge - 5 AMP (F11)
	853-0003	2	Washer, Lock - ET (#6)	53	321-0217	1	Holder, Fuse
31	870-0053	1	Nut, Hex (#10-32)				
32	850-0030	1	Washer, Lock - Spring (#10)				

@ - Standard Harness Listed; Sets with 4 or 5 Meters and other special features may require additional electrical leads.
* - Parts Included in Ground Terminal.

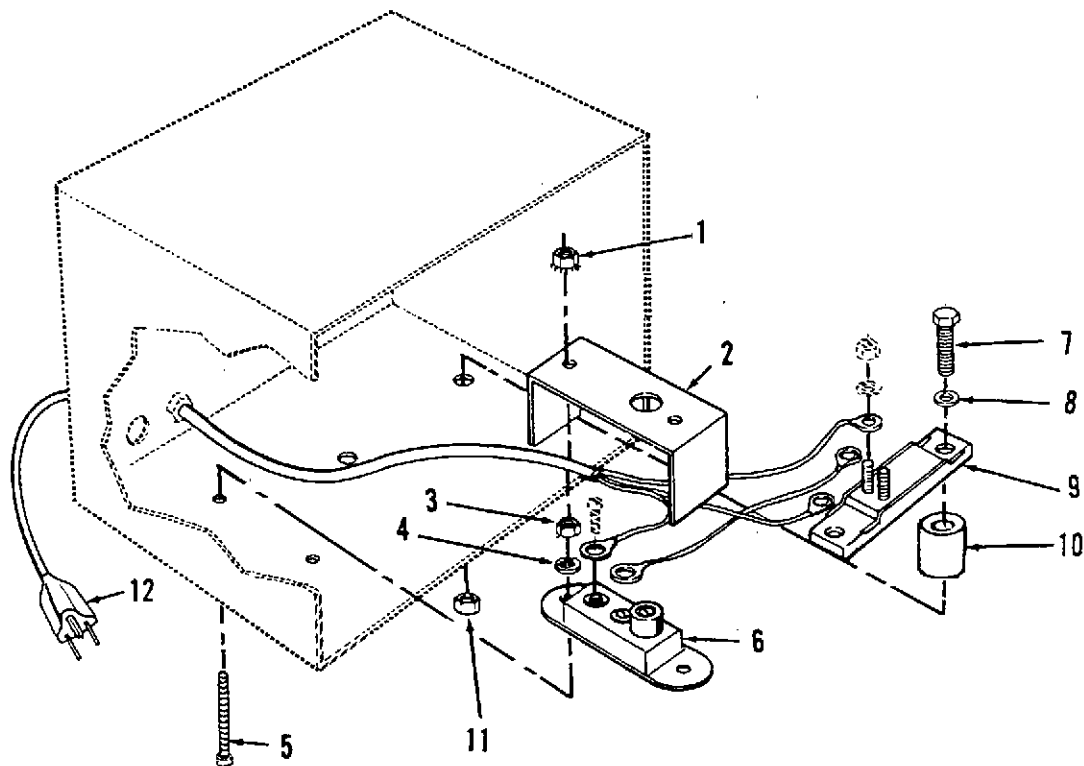
Engine Control Mechanical Gauges



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-1077	1	Hose	14	853-0003	2	Washer, Lock - ET (#6)
2	502-0444	1	Adapter, Pipe to Hose - Male	15	332-0795	1	Block, Terminal - 20 Place
3	502-0445	1	Adapter, Pipe to Hose - Female	16	332-1241	1	Strip, Marker
4	502-0583	1	Elbow, Pipe - 45 Degree	17	871-0010	2	Nut, Hex - Brass (#10-32)
5	502-0051	1	Coupling, Pipe	18	850-0030	2	Washer, Lock - Spring (#10)
6			Gauge, Pressure - Oil	19	526-0062	2	Washer, Flat - Brass (#10)
	193-0232	1	0 - 75 Pounds	20	853-0008	1	Washer, Lock - ET (#10)
	193-0233	1	0 - 150 Pounds	21	856-0003	1	Washer, Lock - EIT (#10)
7			Gauge, Temperature - Water (Includes Reducer)	22	815-0203	1	Screw, Machine - Round Head (#10-32 x 7/8")
	193-0234	1	72" Capillary Tube	23	870-0053	1	Nut, Hex (#10-32)
	193-0235	1	84" Capillary Tube	24	850-0030	1	Washer, Lock - Spring (#10)
	193-0236	1	96" Capillary Tube	25	332-0051	2	Clamp, Loop
	193-0305	1	144" Capillary Tube	26	815-0026	5	Screw, Machine - Truss Head (#10-32 x 3/8")
8	NFS	1	Reducer, Hex (Part of Gauge)	27	870-0053	1	Nut, Hex (#10-32)
9	302-0061	1	Ammeter	28	850-0030	1	Washer, Lock - Spring (#10)
10	308-0088	1	Switch, Toggle	29	856-0003	1	Washer, Lock - EIT (#10)
11	308-0297	1	Switch, Push	30	301-4009	1	Panel, Control
12	308-0155	1	Switch, Toggle	31	301-3253	1	Bracket, Mounting
13	812-0066	2	Screw, Machine - Round Head (#6-32 x 3/4")				

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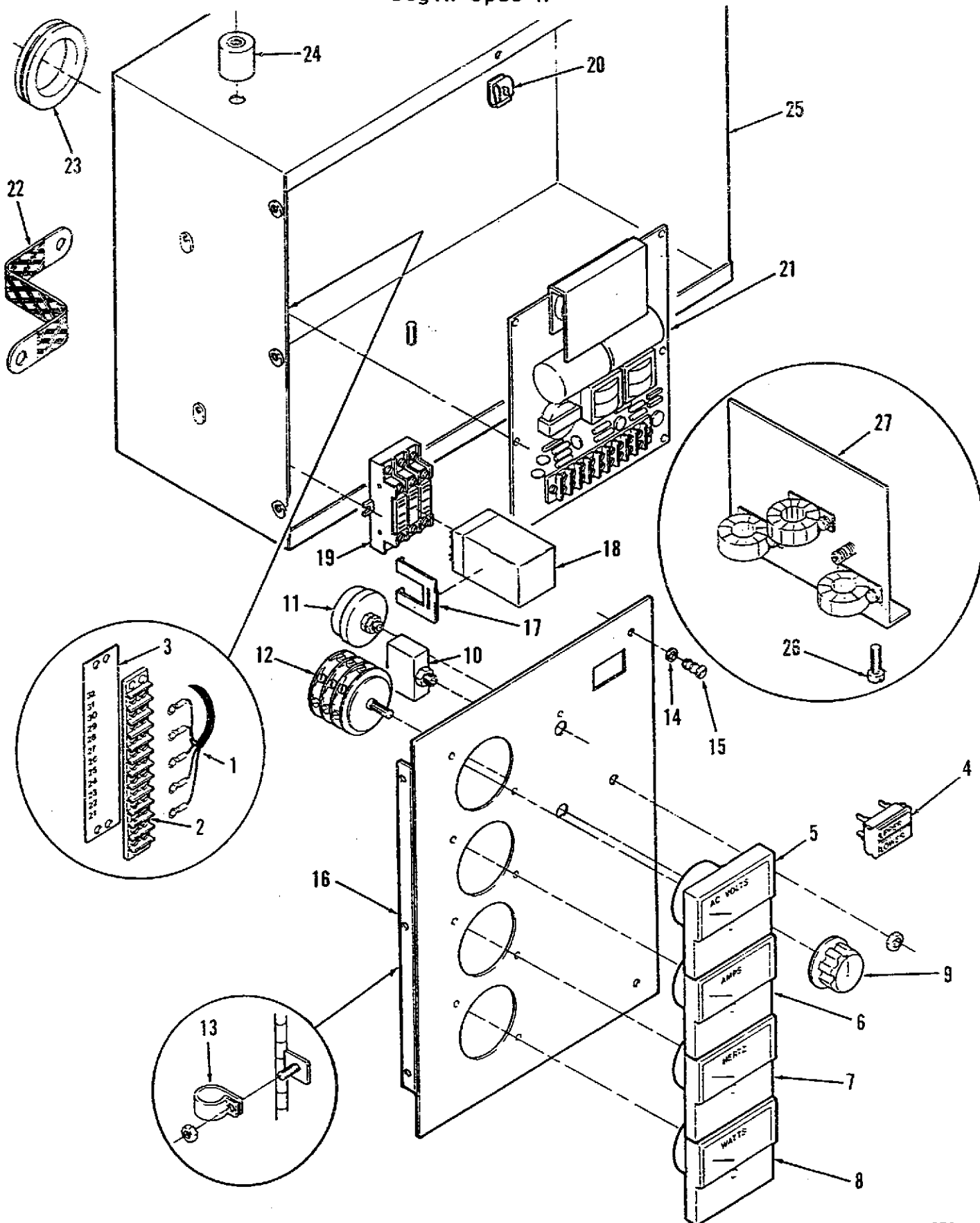
Control Heater



SC1156

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	870-0183	2	Nut, Self-locking - Hex (#6-32)	7	800-0034	2	Screw, Cap - Hex Head (5/16-18 x 2-1/4")
2	301-1886	1	Cover	8	526-0113	2	Washer, Flat (5/16")
3	860-0006	1	Nut, Hex (#6-32)	9	333-0151	1	Heater, Electrical
4	854-0006	2	Washer, Lock - IT (#6)	10	130-1107	2	Spacer
5	812-0070	2	Screw, Machine - Round Head (#6-32 x 1-1/4")	11	870-0257	2	Nut, Self-locking - Hex (5/16-18)
6	309-0128	1	Thermostat, Adjustable	12	335-0161	1	Cable, Electrical

Generator Control
Begin Spec M

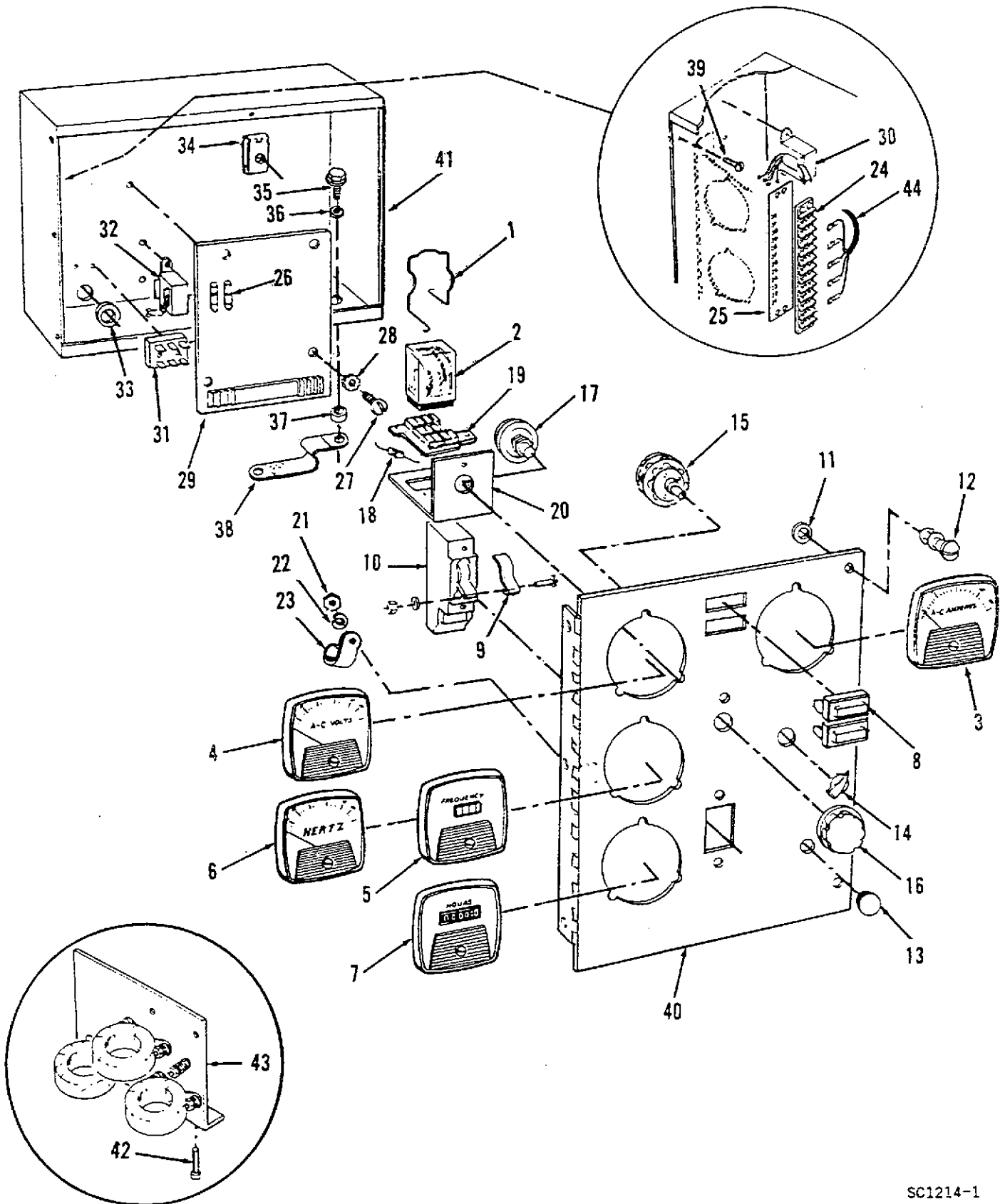


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Generator Control Begin Spec M

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Harness, Wiring - (Includes Terminal Block)	301-9054-02	1	3	3 Meter Holes
	338-1818	1	Control with Meters	301-9054-03	1	No	Meter Holes
	338-1853	1	Control without Meters	821-0004	3	Screw, Self-locking - Hex	(#10-32 x 5/16")
	812-0065	2	Screw, Machine - Round Head (#6-32 x 5/8")	17	307-1987	2	Clip, Relay
2	332-0607	1	Block, Terminal (TB1)	18	307-1056	1	Relay, 24 VDC (K21)
3	332-2723	1	Strip, Marker	19	323-0804	1	Socket, Relay
4	322-0363	1	Light, Indicator - Dual (DS21, DS22)		815-0544	2	Screw, Machine - Round Head with IT Lock Washer (#6-32 x 1/2")
5			Voltmeter (M21)	20	406-0332	2	Receptacle, Fastener
	302-1148	1	0-300/600 VAC, Code 15, 515	21	300-2880	1	Regulator, Voltage (VR21)
	302-1753	1	0-750 VAC, Code 9		815-0544	6	Screw, Machine - Round Head with IT Lock Washer (#6-32 x 1/2")
6			Ammeter (M22)				Strap, Electrical
	302-1725	1	0-375/750 Amp, Code 15, 515	22	337-0049	1	Screw, Cap - Hex Head (5/16-18 x 1/2")
	302-1761	1	0-250 Amp, Code 9		800-0024	1	Washer, Lock - EIT (5/16")
7	302-1720	1	Meter, Frequency (M23)				Grommet
8		1	Wattmeter (M24) (See Separate page for Components)		856-0008	1	Mount, Vibration
9	303-0032	1	Knob	23	508-0051	1	Screw, Cap - Hex Head (5/16-18 x 3/8")
10			Breaker, Circuit (CB21)	24	402-0527	2	Washer, Lock - Spring (5/16")
	320-1121	1	Standard		800-0045	4	Box, Control
	320-1438	1	Auxiliary Contact				Screw, Self-locking - Hex (1/4-20 x 1/2")
11	303-0261	1	Rheostat (R21)		850-0045	4	Current Transformer (See Separate Page for Components)
12	308-0284	1	Switch, Rotary (S21)	25	301-8065	1	
13	332-0052	1	Clamp, Loop	26	821-0010	2	
	870-0131	1	Nut, Self-locking - Hex with ET Lock Washer (#10-32)	27		1	
14	406-0334	2	Clip, Fastener				
15	406-0333	2	Stud, Fastener				
16			Door, Control				
	301-9054-01	1	4 Meter Holes				

Generator Control
Spec H thru L

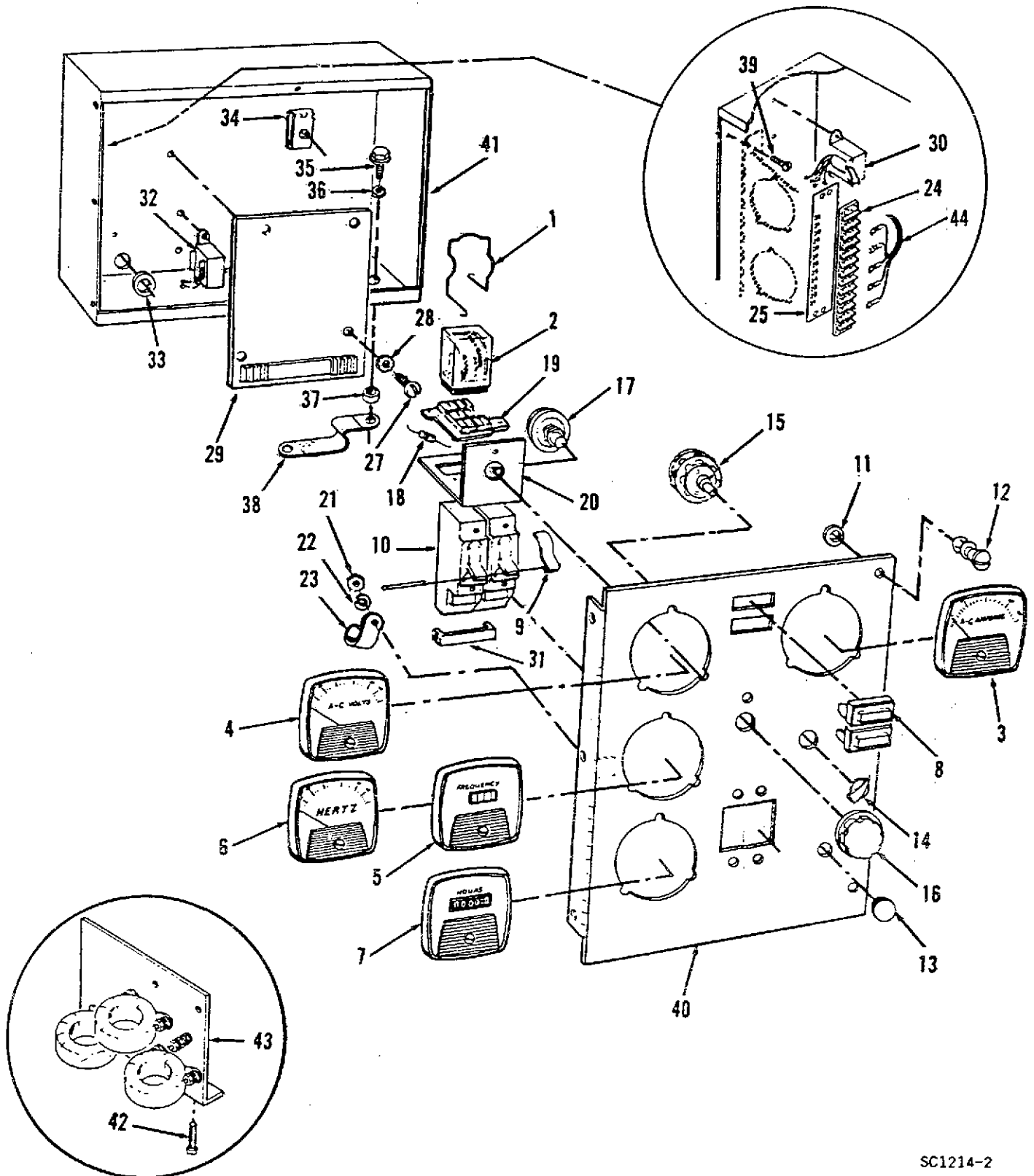


SC1214-1

Generator Control Spec H thru L

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	307-1157	1	Spring, Relay	24			Block, Terminal (TB21)
2	307-1061	1	Relay (K21)	332-0607	1	12 Place	
3			Ammeter (M21)	332-0795	1	16 Place	
	302-0412	1	0-250 Amp, Code 9	812-0066	2	Screw, Machine - Round Head	
	302-0413	1	0-300 Amp, Code 6			(#6-32 x 3/4")	
	302-0724	1	0-375/750 Amp, Code 15, 515	853-0003	2	Washer, Lock - ET (#6)	
4			Voltmeter (M22)	850-0020	2	Washer, Lock - Spring (#6)	
	302-0422	1	0-600 VAC, Code 6	25		Strip, Marker	
	302-0779	1	0-750 VAC, Code 9	332-1242	1	16 Place	
	302-0718	1	0-300/600 VAC, Code 15, 515	332-1248	1	12 Place	
5			Meter, Frequency - Reed (M23)	26	321-0204	2	Fuse, Cartridge - 1/4 Amp
	302-0221	1	230 VAC, 60 Hz - Code 6, 9, 15	27	812-0065	4	Screw, Machine - Round Head
	302-0256	1	230 VAC, 50 Hz - Code 515			(#6-32 x 5/8")	
6			Meter, Frequency - Pointer (M23)	28	853-0003	4	Washer, Lock - ET (#6)
	302-0810	1	208 VAC, 60 Hz - Code 15	29		Regulator, Voltage (VR21)	
	302-0811	1	240 VAC, 60 Hz - Code 6, 9	332-1268	1	120 VAC Input Signal Req'd	
	302-0894	1	240 VAC, 50 Hz - Code 515	332-1956	1	240 VAC Input Signal Req'd	
7			Meter, Totalizing - Time (M24)	0		Transformer, Voltage (T21)	
	302-0466	1	60 Hz		315-0342	1	120 VAC
	302-0469	1	50 Hz		315-0431	1	240 VAC
8			Light, Indicator - Red - 125 VAC	812-0061	2	Screw, Machine - Round Head	
	322-0130	1	Upper Scale (DS21)			(#6-32 x 3/8")	
	322-0131	1	Lower Scale (DS22)	853-0003	2	Washer, Lock - ET (#6)	
9	320-0307	1	Lock, Handle	31	305-0675	1	Rectifier, Bridge (CR21)
	815-0203	1	Screw, Machine - Round Head	812-0070	2	Screw, Machine - Round Head	
			(#10-32 x 7/8")			(#6-32 x 1-1/4")	
	854-0010	1	Washer, Lock - ET (#10)	850-0020	2	Washer, Lock - Spring (#6)	
	871-0010	1	Nut, Hex (#10-32)	32	315-0384	1	Reactor (L21)
10			Breaker, Circuit (CB21)	812-0061	2	Screw, Machine - Round Head	
	320-0431	1	2 Amp			(#6-32 x 3/8")	
	320-0439	1	2 Amp, Auxiliary Contacts	853-0003	2	Washer, Lock - ET (#6)	
	812-0061	2	Screw, Machine - Round Head	33	508-0001	1	Grommet
			(#6-32 x 3/8")	34	406-0332	2	Receptacle, Fastener
	850-0020	2	Washer, Lock - Spring (#6)	35	800-0045	4	Screw, Cap - Hex Head
11	406-0334	2	Clip, Fastener			(5/16-18 x 3/8")	
12	406-0333	2	Stud, Fastener	36	850-0045	4	Washer, Lock - Spring (5/16")
13	517-0131	1	Plug, Plastic	37	402-0078	4	Dampener, Vibration
14	303-0076	1	Knob, Pointer	38	337-0049	1	Strap, Electrical - Ground
15	308-0284	1	Switch, Selector (S21)	39	815-0026	3	Screw, Machine - Truss Head
16	303-0032	1	Knob			(#10-32 x 3/8")	
17	303-0170	1	Rheostat (R21)	40		Panel, Control	
18	350-0556	1	Resistor (R22)		301-3821	1	2 Meters, Code 6, 9
19	323-0765	1	Socket, Relay (Less Terminal)		301-3274	1	2 Meters, Code 15, 515
	812-0061	2	Screw, Machine - Round Head		301-3342	1	4 Meters, Code 6, 9
			(#6-32 x 3/8")		301-3170	1	4 Meters, Code 15, 515
	853-0003	2	Washer, Lock - ET (#6)		301-3449	1	5 Meters, Code 6, 9
	860-0005	2	Nut, Hex (#6-32)		301-3312	1	5 Meters, Code 15, 515
	332-1280	11	Terminal	41	301-3158	1	Box, Control
20	301-3244	1	Bracket, Mounting	42	821-0010	2	Screw, Self-locking - Hex
21	870-0053	1	Nut, Hex (#10-32)			(1/4-20 x 1/2")	
22	850-0030	1	Washer, Lock - Spring (#10)	43		Current Transformer	
23	332-0051	1	Clamp, Loop			(See Separate Page for Components)	
				44		Harness, Wiring -	
						Standard	
					338-0766	1	Code 6, 9
					338-0764	1	Code 15, 515
							Multi Meter
					338-0759	1	Code 6, 9
					338-0730	1	Code 15, 515

Generator Control
Switching Regulator
Spec H thru L

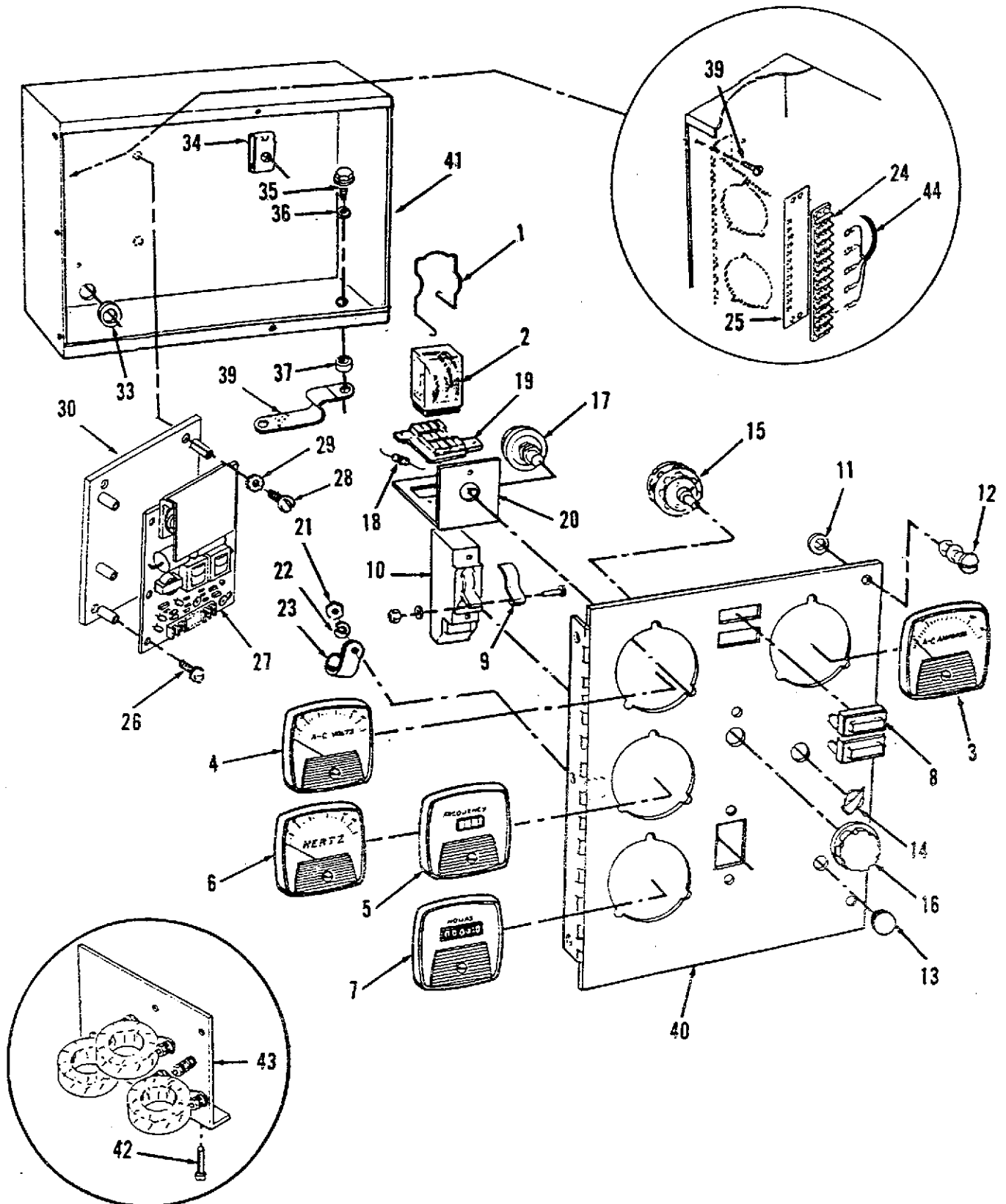


SC1214-2

Generator Control Switching Regulator Spec H thru L

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	307-1157	1	Spring, Relay	24			Block, Terminal (TB21)
2	307-1061	1	Relay (K21)	332-0607	1	12 Place	
3			Ammeter (M21)	332-0795	1	16 Place	
	302-0412	1	0-250 Amp, Code 9	812-0066	2	Screw, Machine - Round Head	
	302-0413	1	0-300 Amp, Code 6			(#6-32 x 3/4")	
	302-0724	1	0-375/750 Amp, Code 15, 515	853-0003	2	Washer, Lock - ET (#6)	
4			Voltmeter (M22)	850-0020	2	Washer, Lock - Spring (#6)	
	302-0422	1	0-600 VAC, Code 6	25		Strip, Marker	
	302-0779	1	0-750 VAC, Code 9	332-1242	1	16 Place	
	302-0718	1	0-300/600 VAC, Code 15, 515	332-1248	1	12 Place	
5			Meter, Frequency - Reed (M23)	27	812-0065	4	Screw, Machine - Round Head
	302-0221	1	230 VAC, 60 Hz - Code 6, 9, 15			(#6-32 x 5/8")	
	302-0256	1	230 VAC, 50 Hz - Code 515	28	853-0003	4	Washer, Lock - ET (#6)
6			Meter, Frequency - Pointer (M23)	29		Regulator, Voltage (VR21)	
	302-0810	1	208 VAC, 60 Hz - Code 15	300-1928	1	Semi-Frequency Sensitive	
	302-0811	1	240 VAC, 60 Hz - Code 6, 9	300-1929	1	Voltage Sensitive	
	302-0894	1	240 VAC, 50 Hz - Code 515	300-1930	1	Frequency Sensitive	
7			Meter, Totalizing - Time (M24)	30	315-0431	1	Transformer, Voltage -
	302-0466	1	60 Hz			240 VAC (T21)	
	302-0469	1	50 Hz	812-0061	2	Screw, Machine - Round Head	
8			Light, Indicator - Red - 125 VAC			(#6-32 x 3/8")	
	322-0130	1	Upper Scale (DS21)	853-0003	2	Washer, Lock - ET (#6)	
	322-0131	1	Lower Scale (DS22)	31	320-0202	1	Bar, Locking
9	320-0307	1	Lock, Handle	32	315-0384	1	Reactor (L21)
	815-0203	1	Screw, Machine - Round Head			(#6-32 x 3/8")	
			(#10-32 x 7/8")	812-0061	2	Screw, Machine - Round Head	
	854-0010	1	Washer, Lock - ET (#10)			(#6-32 x 3/8")	
	871-0010	1	Nut, Hex (#10-32)	853-0003	2	Washer, Lock - ET (#6)	
10			Breaker, Circuit (CB21)	33	508-0001	1	Grommet
	320-0431	2	2 Amp	34	406-0332	2	Receptacle, Fastener
	320-0439	2	2 Amp, Auxiliary Contacts	35	800-0045	4	Screw, Cap - Hex Head
	812-0061	4	Screw, Machine - Round Head			(5/16-18 x 3/8")	
			(#6-32 x 3/8")	36	850-0045	4	Washer, Lock - Spring (5/16")
	850-0020	4	Washer, Lock - Spring (#6)	37	402-0078	4	Dampener, Vibration
11	406-0334	2	Clip, Fastener	38	337-0049	1	Strap, Electrical - Ground
12	406-0333	2	Stud, Fastener	39	815-0026	3	Screw, Machine - Truss Head
13	517-0131	1	Plug, Plastic			(#10-32 x 3/8")	
14	303-0076	1	Knob, Pointer	40		Panel, Control	
15	308-0284	1	Switch, Selector (S21)	301-7078	1	2 Meters, Code 15, 515	
16	303-0032	1	Knob	301-6412	1	4 Meters, Code 6, 9	
17	303-0170	1	Rheostat (R21)	301-6298	1	4 Meters, Code 15, 515	
18	350-0556	1	Resistor (R22)	301-8775	1	5 Meters, Code 15, 515	
19	323-0765	1	Socket, Relay (Less Terminal)	41	301-3158	1	Box, Control
	812-0061	2	Screw, Machine - Round Head	42	821-0010	2	Screw, Self-locking - Hex
			(#6-32 x 3/8")			(1/4-20 x 1/2")	
	853-0003	2	Washer, Lock - ET (#6)	43		Current Transformer	
	860-0005	2	Nut, Hex (#6-32)			(See Separate Page for	
	332-1280	11	Terminal	44		Components)	
20	301-3244	1	Bracket, Mounting			Harness, Wiring -	
21	870-0053	1	Nut, Hex (#10-32)			Standard	
22	850-0030	1	Washer, Lock - Spring (#10)	338-0766	1	Code 6, 9	
23	332-0051	1	Clamp, Loop	338-0764	1	Code 15, 515	
						Multi Meter	
				338-0759	1	Code 6, 9	
				338-1469	1	Code 15, 515	

Generator Control
Torque Matched Regulator
Spec H thru L

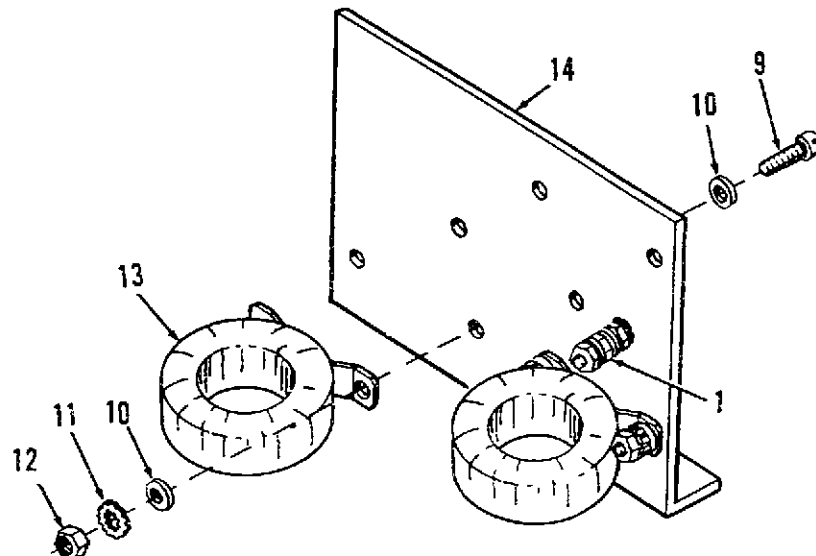
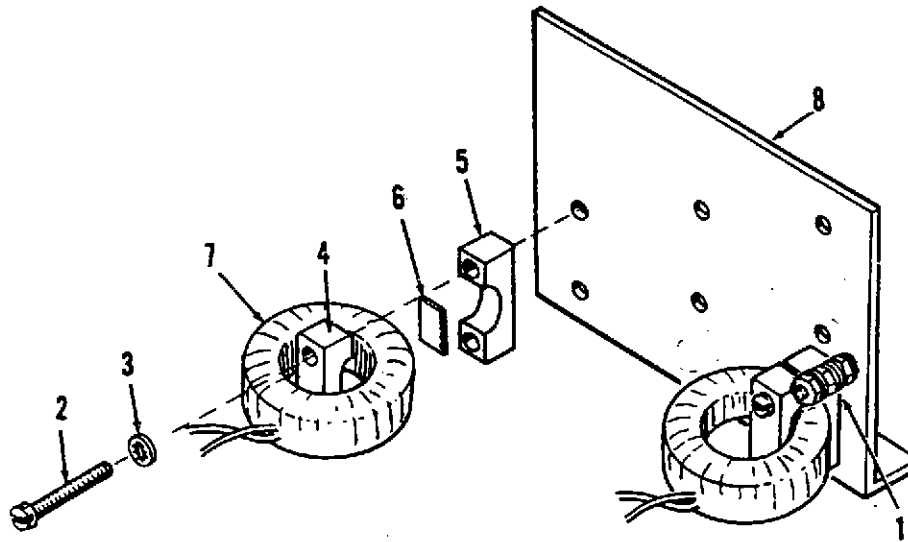


SC1214-3

**Generator Control
Torque Matched Regulator
Spec H thru L**

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	307-1157	1	Spring, Relay	21	870-0053	1	Nut, Hex (#10-32)
2	307-1061	1	Relay (K21)	22	850-0030	1	Washer, Lock - Spring (#10)
3			Ammeter (M21)	23	332-0051	1	Clamp, Loop
	302-0412	1	0-250 Amp, Code 9	24			Block, Terminal (TB21)
	302-0413	1	0-300 Amp, Code 6		332-0607	1	12 Place
	302-0724	1	0-375/750 Amp, Code 15, 515		332-0795	1	16 Place
4			Voltmeter (M22)		812-0066	2	Screw, Machine - Round Head (#6-32 x 3/4")
	302-0422	1	0-600 VAC, Code 6				Washer, Lock - ET (#6)
	302-0779	1	0-750 VAC, Code 9		853-0003	2	Washer, Lock - Spring (#6)
	302-0718	1	0-300/600 VAC, Code 15, 515		850-0020	2	Strip, Marker
5			Meter, Frequency - Reed (M23)	25			16 Place
	302-0221	1	230 VAC, 60 Hz - Code 6, 9, 15		332-1242	1	12 Place
	302-0256	1	230 VAC, 50 Hz - Code 515		332-1248	1	
6			Meter, Frequency - Pointer (M23)	26	815-0544	6	Screw, Machine - Round Head with IT Lock Washer (#6-32 x 1/2")
	302-0810	1	208 VAC, 60 Hz - Code 15				Regulator, Voltage (VR21)
	302-0811	1	240 VAC, 60 Hz - Code 6, 9				Screw, Machine - Round Head (#6-32 x 5/8")
	302-0894	1	240 VAC, 50 Hz - Code 515	27	300-2880	1	Washer, Lock - ET (#6)
7			Meter, Totalizing - Time (M24)	28	812-0065	4	Bracket, Mounting
	302-0466	1	60 Hz				Grommet
	302-0469	1	50 Hz	29	853-0003	4	Receptacle, Fastener
8			Light, Indicator - Red - 125 VAC	30	301-9315	1	Screw, Cap - Hex Head (5/16-18 x 3/8")
	322-0130	1	Upper Scale (DS21)	33	508-0001	1	Washer, Lock - Spring (5/16")
	322-0131	1	Lower Scale (DS22)	34	406-0332	2	Dampener, Vibration
9	320-0307	1	Lock, Handle	35	800-0045	4	Strap, Electrical - Ground
	815-0203	1	Screw, Machine - Round Head (#10-32 x 7/8")				Screw, Machine - Truss Head (#10-32 x 3/8")
	854-0010	1	Washer, Lock - ET (#10)	36	850-0045	4	Panel, Control
	871-0010	1	Nut, Hex (#10-32)	37	402-0078	4	2 Meters, Code 6, 9
10			Breaker, Circuit (CB21)	38	337-0049	1	2 Meters, Code 15, 515
	320-0431	1	2 Amp	39	815-0026	3	4 Meters, Code 6, 9
	320-0439	1	2 Amp, Auxiliary Contacts				4 Meters, Code 15, 515
	812-0061	2	Screw, Machine - Round Head (#6-32 x 3/8")	40		1	5 Meters, Code 6, 9
					301-3821	1	5 Meters, Code 15, 515
	850-0020	2	Washer, Lock - Spring (#6)		301-3274	1	Box, Control
11	406-0334	2	Clip, Fastener		301-3342	1	Screw, Self-locking - Hex (1/4-20 x 1/2")
12	406-0333	2	Stud, Fastener		301-3170	1	Current Transformer
13	517-0131	1	Plug, Plastic		301-3449	1	(See Separate Page for Components)
14	303-0076	1	Knob, Pointer		301-3312	1	Harness, Wiring - Standard
15	308-0284	1	Switch, Selector (S21)	41	301-3158	1	Code 6, 9
16	303-0032	1	Knob	42	821-0010	2	Code 15, 515
17	303-0170	1	Rheostat (R21)				Multi Meter
18	350-0556	1	Resistor (R22)	43			Code 6, 9
19	323-0765	1	Socket, Relay (Less Terminal)				Code 15, 515
	812-0061	2	Screw, Machine - Round Head (#6-32 x 3/8")	44			
					338-0766	1	
	853-0003	2	Washer, Lock - ET (#6)		338-0764	1	
	860-0005	2	Nut, Hex (#6-32)				
	332-1280	11	Terminal		338-0759	1	
20	301-3244	1	Bracket, Mounting		338-0730	1	

Current Transformer

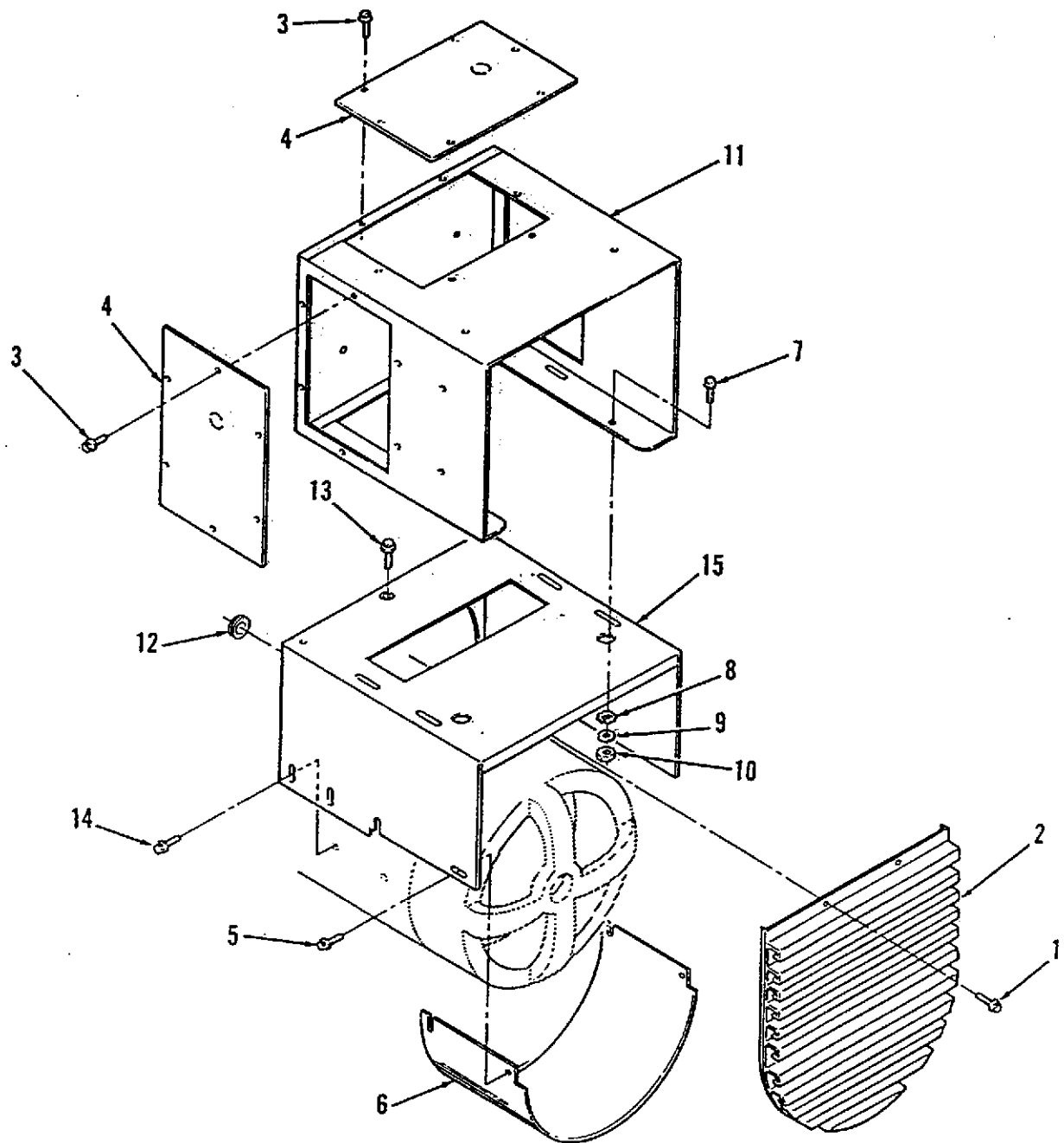


SC1150

Current Transformer

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Terminal, Ground	7			Transformer, Current Ratio
	815-0203	1	Screw, Machine - Round Head (#10-32 x 7/8")		302-0209	3	250/5, Code 9X (All Specs)
	871-0010	3	Nut, Hex (#10-32)		302-0107	3	300/5, Code 6 (Spec H thru L)
	856-0003	1	Washer, Lock - EIT (#10)	8	302-0729	1	Bracket, Mounting
	854-0010	2	Washer, Lock - IT (#10)	9	813-0100	6	Screw, Machine - Round Head (#10-32 x 1/2")
	526-0049	2	Washer, Flat - Brass (#10)	10	526-0008	6	Washer, Flat (#10)
2	813-0110	6	Screw, Machine - Round Head (#10-32 x 2")	11	856-0003	6	Washer, Lock - EIT (#10)
3	854-0010	6	Washer, Lock - IT (#10)	12	870-0053	6	Nut, Hex (#10-32)
4	302-0235	3	Clamp, Upper	13			Transformer, Current with Mounting Feet
5	302-0236	3	Clamp, Lower		302-0471	3	750/5, Code 15, 515
6	302-0253	6	Shim	14	302-0764	1	Bracket, Mounting

Control Housing



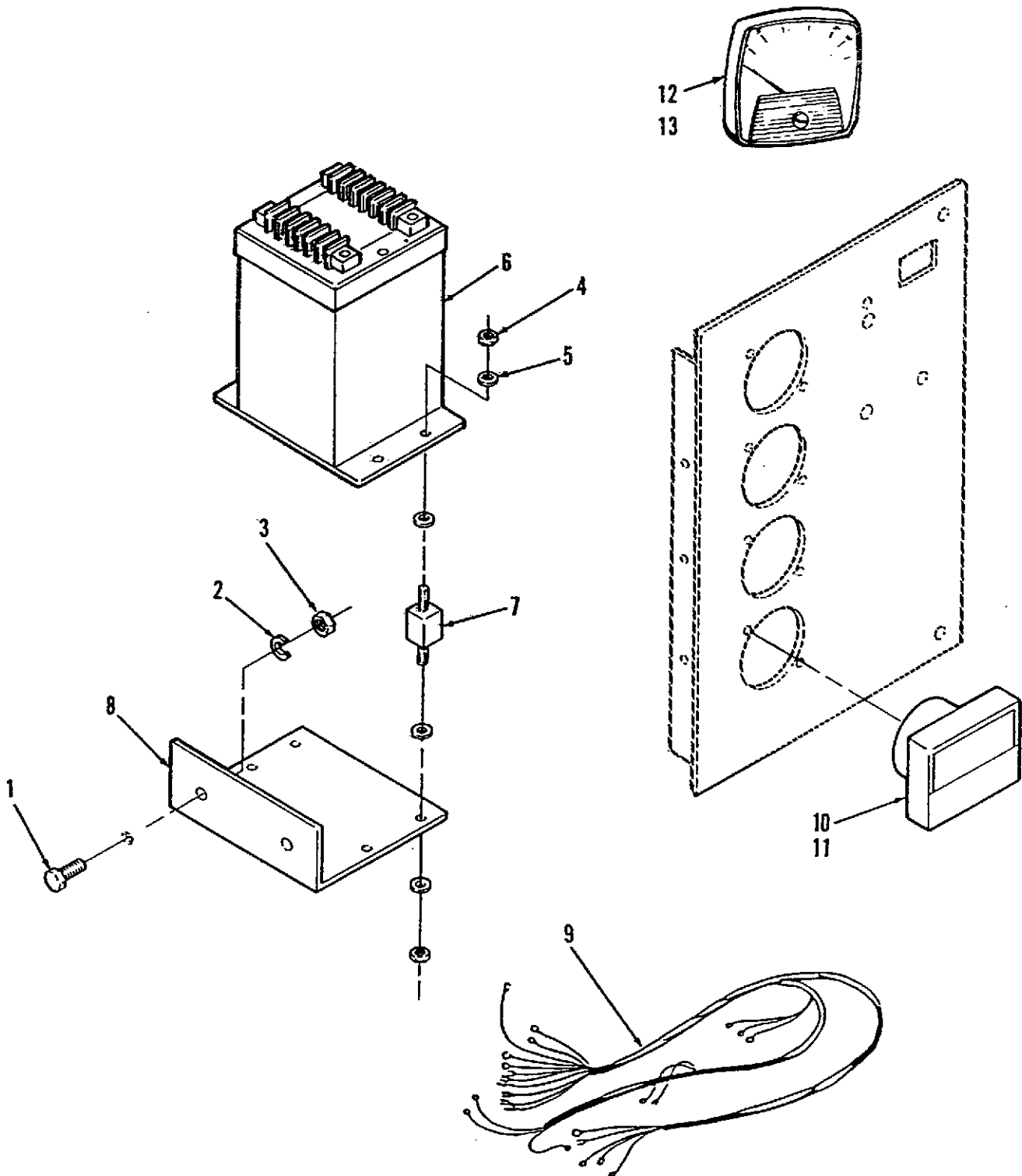
102B

Control Housing

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	821-0010	8	Screw, Self-locking - Hex (1/4-20 x 3/4")
2	234-0370	1	Grille
3	815-0350	18	Screw, Tapping - Hex (#10-32 x 3/8")
4	301-3156	3	Panel, Access
5	821-0010	4	Screw, Self-locking - Hex (1/4-20 x 1/2")
6	234-0361	1	Wrapper, End Bell
7	821-0018	6	Screw, Self-locking - Hex (1/4-20 x 5/8")
8	856-0006	1	Washer, Lock - EIT (1/4")

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
9	526-0018	5	Washer, Flat (1/4")
10	870-0212	6	Nut, Hex (1/4-20)
11	301-3155	1	Housing, Control Box
12			Bushing or Grommet
	508-0203	1	Grommet (Thru 1984)
	508-0051	1	Bushing, Cable - Begin 1985
13	821-0010	1	Screw, Self-locking - Hex (1/4-20 x 1/2")
14	821-0014	8	Screw, Self-locking - Hex (5/16-18 x 1/2")
15	301-3154	1	Saddle

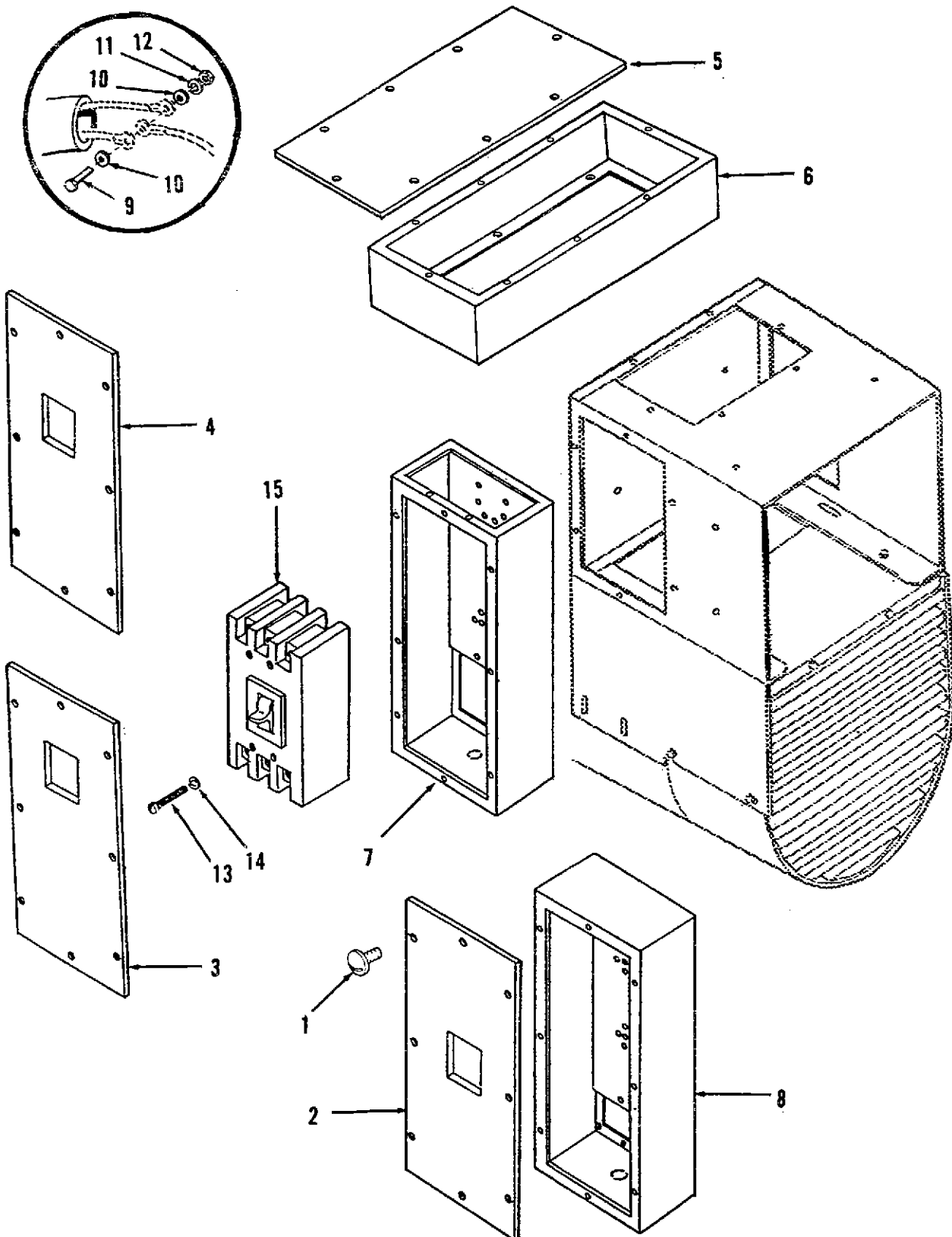
Wattmeter



Wattmeter

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	821-0017	2	Screw, Self-locking - HWH (5/16-18 x 1/2")	8	301-6987	1	Bracket, Mounting
2	850-0045	2	Washer, Lock - Spring (5/16")	9	338-1936	1	Harness, Wiring
3	862-0014	2	Nut, Hex (5/16-18)	10	302-1722	1	Wattmeter (Less Dial)
4	860-0008	8	Nut, Hex (#8-32)				{Begin Spec M}
5	856-0002	16	Washer, Lock - EIT (#8)	11	302-1721-07	1	Dial (Scale 0-180 kW)
6			Transducer, Watt				{Begin Spec M}
	302-1082	1	3 Phase, 60 Hertz	12	302-1102	1	Wattmeter (Less Dial)
	302-1083	1	3 Phase, 50 Hertz				{Spec H thru L}
7	402-0078	4	Mount, Vibration	13	302-1109	1	Dial (Scale 0-180 kW)
							{Spec H thru L}

Circuit Breaker



SC1158-1

Circuit Breaker

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Screw, Machine - Truss Head (#10-32 x 3/8")	10	526-0022	10	Washer, Flat (5/16")
	815-0026	8	Used thru 1983	11	850-0045	5	Washer, Lock - Spring (5/16")
	815-0026	16	Begin 1984	12	862-0015	5	Nut, Hex (5/16-18)
2	301-3272	1	Cover, Circuit Breaker - Thru 1983	13			Screw, Machine - Round Head 1/4-20 x 1-1/2"
					812-0156	4	5/16-18 x 1-1/2"
3	301-8333	1	Cover, Circuit Breaker - Begin 1984 (Used with Breakers marked *)	14	812-0182	4	Washer, Lock - Spring 1/4"
					850-0040	4	5/16"
4	301-8334	1	Cover, Circuit Breaker - Begin 1984 (Used with Breakers marked @)	15	850-0045	4	Breaker, Circuit - 3 Phase
					320-0447	1	* 200 Amp
5	301-8404	1	Cover, Output Box - Begin 1984		320-0269	1	* 225 Amp
					320-0626	1	* 250 Amp
6	301-8405	1	Box, Output - Begin 1984		320-0401	1	* 300 Amp
7	301-8377	1	Box, Circuit Breaker - Begin 1984		320-0523	1	* 350 Amp
					320-0405	1	* 400 Amp, 60Hz Sets
8	301-3271	1	Box, Circuit Breaker - Thru 1983		320-0449	1	* 400 Amp, 50Hz Sets
					320-0598	1	@ 500 Amp
9	800-0028	5	Screw, Cap - Hex Head (5/16-18 x 1")		320-0599	1	@ 600 Amp
					320-0518	1	@ 700 Amp

* - Indicates applicable Cover to Circuit Breaker.

@ - Indicates applicable Cover to Circuit Breaker.

SUPPLEMENTARY PARTS LIST

This Supplementary Parts List Applies to the Standard LDPE Generating Sets as listed below. Use these parts in place of/or in addition to those listed in Main Parts Catalog 956-0220.

ELECTRIC GENERATOR SET DATA TABLE

MODEL AND SPEC NO.	ELECTRICAL DATA				
	WATTS	WIRE	HERTZ	PHASE	KEY
136.0 LDPE-15R/*	136,000	12	60	3	1
136.0 LDPE-515R/*	136,000	12	50	3	1
155.0 LDPE-15R/*	155,000	12	60	3	3
155.0 LDPE-515R/*	155,000	12	50	3	3

* The Specification Letter Advances (A to L, B to C ect.) with Manufacturing Changes.

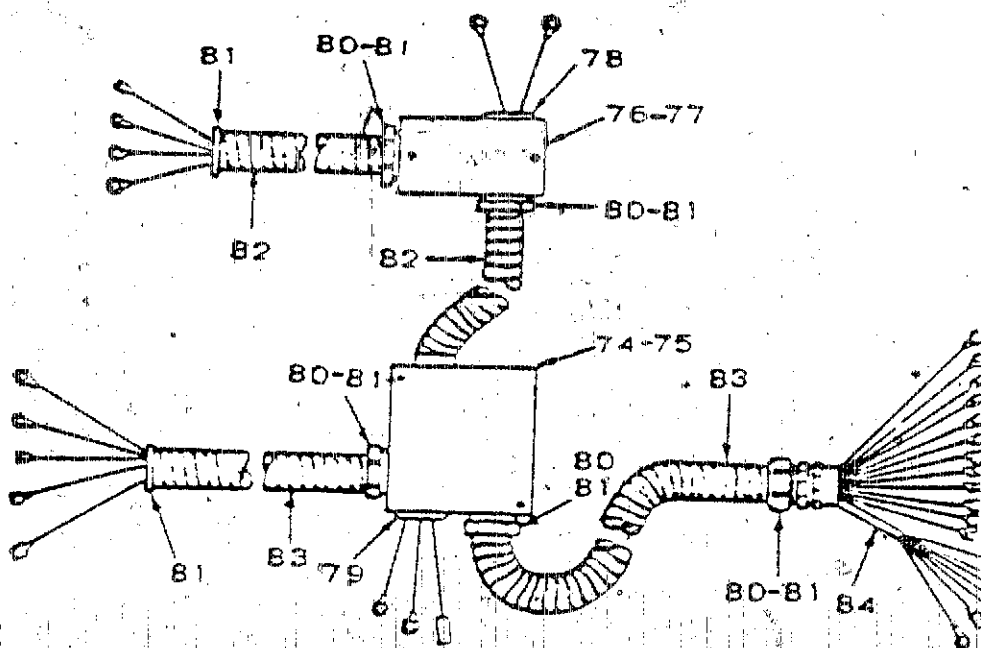
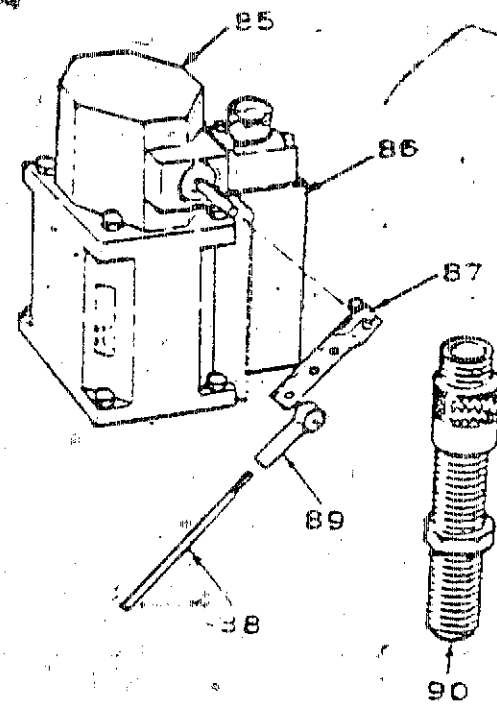
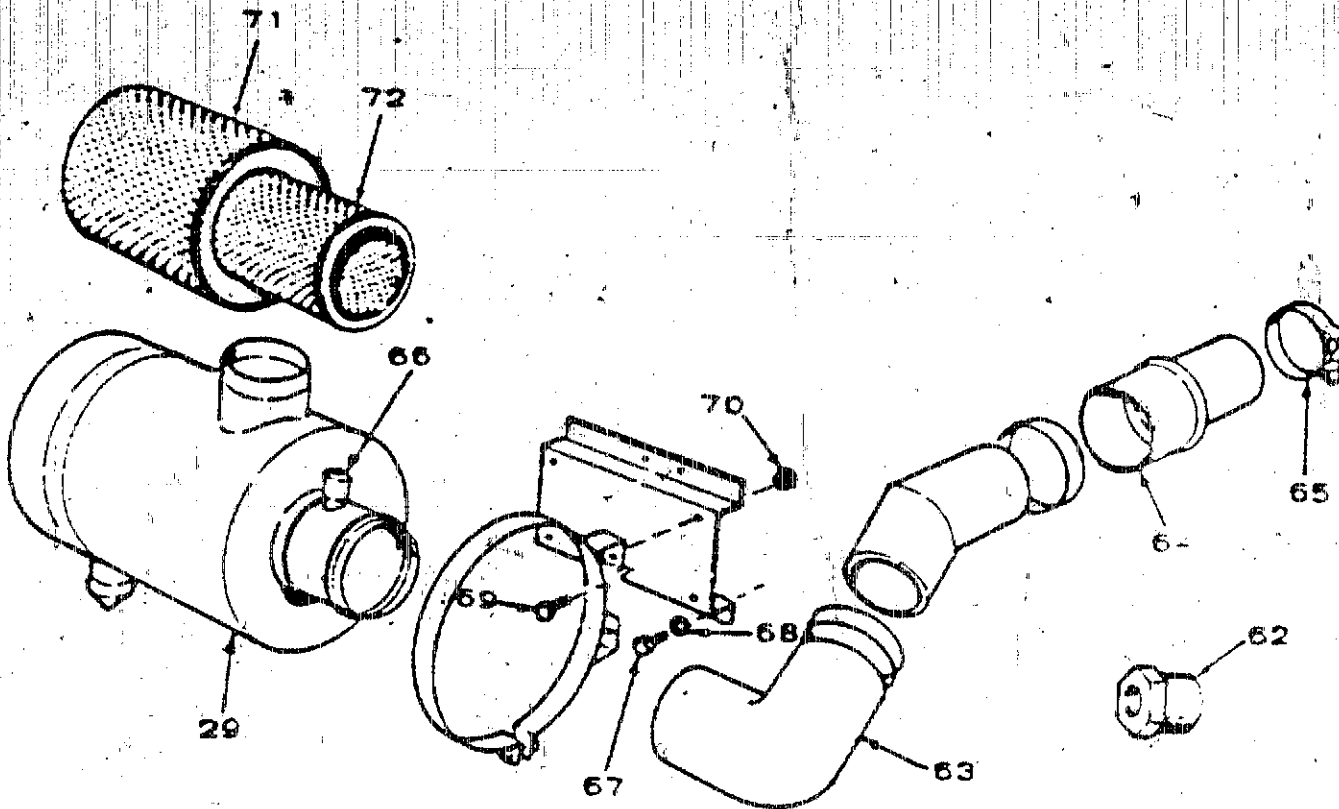
NOTE: These Sets Are Reconnectable, Refer to Wiring Diagram inside Control Box Cover.

100-1578 1 Engine, Replacement

COOLING SYSTEM

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
4	130-1304	1	Hose, Radiator (Lower)
5	503-0998	4	Clamp, Hose
6	130-1017	1	Shroud, Fan
9	130-1330	1	Shroud, Radiator Fan
11	130-1305	1	Hose, Radiator (Upper)
12	503-0877	1	Hose, Deflation
27	503-0906	2	Hose, Upper
28	503-0904	2	Hose, Lower
29	503-0999	4	Clamp, Hose

MISCELLANEOUS ENGINE PARTS



MISCELLANEOUS ENGINE PARTS

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
19	140-1546	1	Bracket, Air Cleaner
22	140-0757	2	Band, Air Cleaner Mtg.
29	140-1537	1	Cleaner, Air
31	140-1545	1	Cap, Air Cleaner
32	140-1544	1	Hose, Air Cleaner
33	503-0864	3	Clamp, Hose
48	504-0010	1	Valve, Oil Drain Shutoff
51	503-0878	1	Hose, Oil Drain
62	505-0022	1	Bushing, Reducer
63	503-0861	1	Elbow, 90° (6")
64	503-0862	1	Reducer, Tube
65	503-0863	1	Clamp, Hose (5½")
66	140-1548	1	Indicator, Service
67	800-0097	2	Screw, Cap - Hex Head (5/16-18 x 1 1/4" Long)
68	850-0070	2	Washer, Lock - Spring (5/16")
69	800-0050	6	Screw, Cap - Hex Head (3/8-16 x 1" Long)
70	870-0281	6	Nut Hex - Self Locking (3/8-16)
71	140-1631	1	Element, Air Cleaner
72	140-1630	1	Element, Air Cleaner
73	338-1123	1	Harness, Engine Wiring (Includes Parts Marked *)
74	330-0093	1	* Box, Outlet
75	330-0099	1	* Cover, Outlet Box
76	330-0094	1	* Box, Outlet
77	330-0004	1	* Cover, Outlet Box
78	508-0001	1	* Grommet, Rubber (3/4")
79	508-0009	1	* Grommet, Rubber (1")
80	Connector		
	331-0149	3	* (3/4")
	331-0150	3	* (1")
81	Bushing		
	508-0201	4	* (3/4")
	508-0202	4	* (1")
82		As Req.	* Conduit, Flexible (Order by Length 331-0143).
83		As Req.	* Conduit, Flexible (Order by Length 331-0144).
84	338-0989	1	* Harness, Governor Wiring
85	151-0423	1	Actuator, Governor (E.C. No. 11003-0-0-24)
86	151-0399	1	Control (Includes Mag Screws) - B.C. No. DYN1 - 10000-2-0-24
87	151-0441	1	Lower, Actuator (B.C. No. DYN2-208)
88	151-0442	1	Rod, Threaded (B.C. No. GYRF-43-1)
89	151-0443	2	Bearing, Rod End (B.C. No. DYN2-47-2)
90	151-0411	1	Pickup, Magnetic (E.C. No. DYN1-10200)
91		1	Bracket, Actuator Mounting (B.C. No. DYN2-68)

* Parts Included in 338-1123 Engine Wiring Harness.

GENERATOR

<u>REF. NO.</u>	<u>PART NO.</u>	<u>QTY. USED</u>	<u>PART DESCRIPTION</u>
1	201-2478	1	Rotor Assembly, Wound
4	Stator Assembly, Wound		
	220-1991	1	136.0 LDFE Sets
	220-1519	1	155.0 LDFE Sets

MOUNTING AND HOUSING

<u>REF. NO.</u>	<u>PART NO.</u>	<u>QTY. USED</u>	<u>PART DESCRIPTION</u>
3	405-2016	6	Bracket, Panel Mounting
4	508-0203	1	Bushing, Nylon
27	405-2011	4	Door, Removable
28	332-1473	1	Lub, Solderless
29	301-4965	1	Bracket, Support
30	301-4964	1	Bracket, Support
31	332-2261	2	Strip, Mounting
32	332-2262	8	Tie, Cable

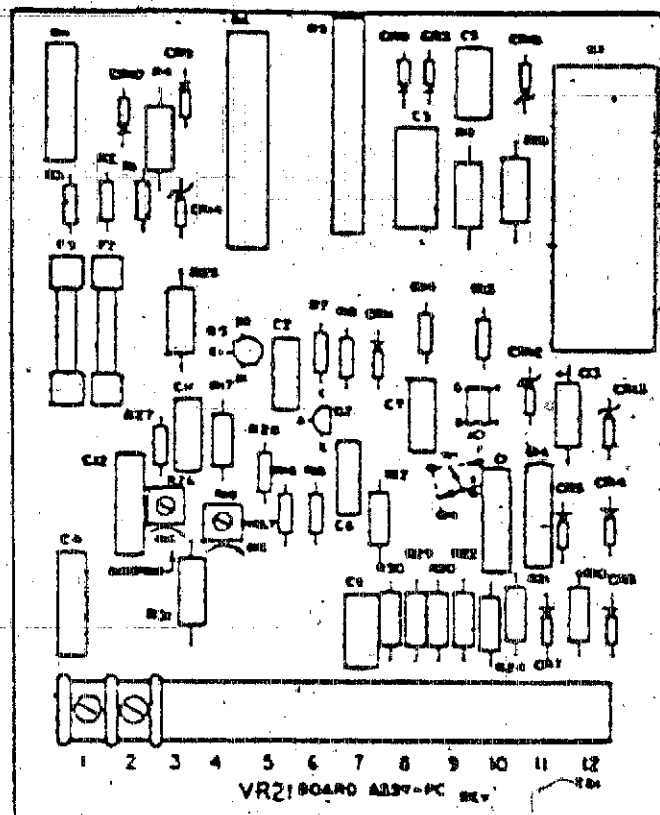
CONTROL (AC PORTION)

<u>REF. NO.</u>	<u>PART NO.</u>	<u>QTY. USED</u>	<u>PART DESCRIPTION</u>
1	301-4586	1	Box, Control
16	Meter, Frequency		
	302-0810	1	50 Hertz
	302-0894	1	60 Hertz
51	321-0223	5	Fuse (15 Amp.)
52	321-0177	1	Block, Fuse - (3 Pole)
53	321-0176	1	Block, Fuse - (2 Pole)
54	338-1104	1	Harness, Wiring
55	332-2044	1	Regulator Board, Voltage (See Separate Group For Components)

CONTROL (ENGINE PORTION)

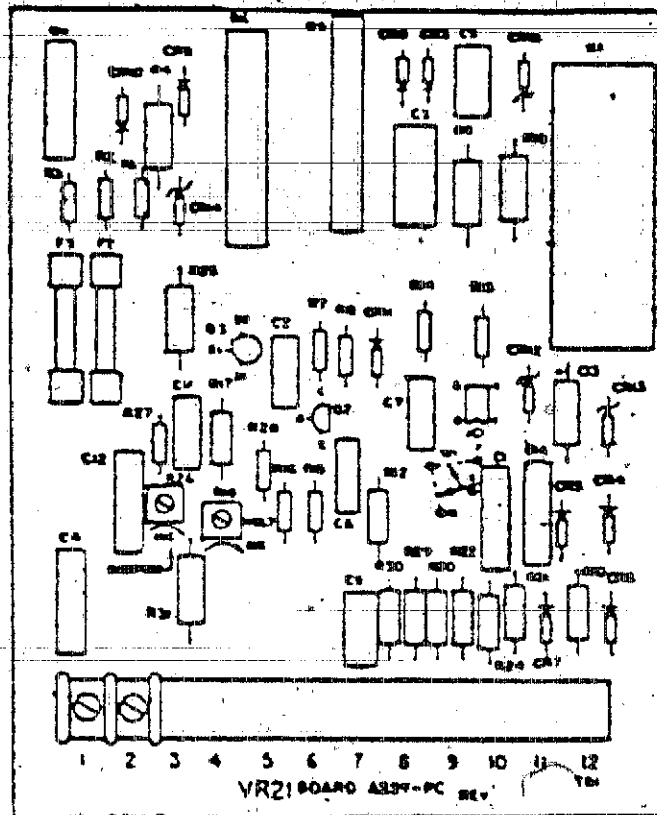
<u>REF. NO.</u>	<u>PART NO.</u>	<u>QTY. USED</u>	<u>PART DESCRIPTION</u>
1	301-4572	1	Panel, Engine Control
19	338-1122	1	Harness, Wiring
40	308-0003	1	Plate - On/Off - Switch
41	321-0217	1	Holder, Fuse
42	321-0181	1	Fuse

VOLTAGE REGULATOR BOARD ASSEMBLY



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	332-1954	1	Printed Circuit Board
C1,14	355-0042	2	Capacitor - 47 Mfd., 250 Volt
C2,7	355-0043	2	Capacitor - .22 Mfd., 250 Volt
C3	355-0047	1	Capacitor - .47 Mfd., 400 Volt
C4,12	355-0044	2	Capacitor - .47 Mfd., 250 Volt
C5,8	355-0046	2	Capacitor - 1 Mfd., 100 Volt
C6	355-0056	1	Capacitor - .33 Mfd., 250 Volt
C11	355-0048	1	Capacitor - .1 Mfd., 400 Volt
C13	355-0039	1	Capacitor - Electrolytic, 100 Mfd., 10 Volt
CR3 thru 11	357-0014	9	Rectifier - Silicon
CR12	359-0036	1	Diode, Zener - 5.6 Volt
CR13	359-0026	1	Diode, Zener - 20 Volt
CR14	359-0026	1	Diode, Zener - 18 Volt
F1,2,3	321-0204	3	Fuse - 1.4 Amp
IC1	367-0005	1	Integrated Circuit
Q2	362-0017	1	Transistor - Silicon (NPN)
Q3	361-0004	1	Transistor - Unijunction
R1	350-0355	1	Resistor - 1/2 Watt, 47-Ohm
R2,3	350-0351	2	Resistor - 1/2 Watt, 33-Ohm
R4	350-1075	1	Resistor - 2 Watt, 4,700,000-Ohm
R5	353-0040	1	Resistor, Fixed - 10 Watt, 270-Ohm
R6	353-0039	1	Resistor, Fixed - 15 Watt, 5,000-Ohm
R7	350-0366	1	Resistor - 1/2 Watt, 3,000-Ohm
R8,16	350-0447	2	Resistor - 1/2 Watt, 330,000-Ohm
R10	351-0685	1	Resistor - 1/2 Watt, 51,000-Ohm
R11	352-0151	1	Resistor, Fixed - 5 Watt, 15,000-Ohm
R12	351-0909	1	Resistor - 1/2 Watt, 90,900-Ohm
R13	350-0411	1	Resistor - 1/2 Watt, 10,000-Ohm
R14	350-0443	1	Resistor - 1/2 Watt, 220,000-Ohm
R15,27	350-0435	2	Resistor - 1/2 Watt, 100,000-Ohm
R17	351-0293	1	Resistor - Metal Film - 1/4 Watt, 11,000-Ohm
R18	303-0210	1	Potentiometer - 1/2 Watt, 5,000-Ohm
R20,22,29 & 30	351-0520	4	Resistor - 1/4 Watt, 28,000-Ohm
R21	351-0522	1	Resistor, Metal Film - 1/4 Watt, 5,110,000-Ohm
R24	351-0523	1	Resistor, Metal Film - 1/4 Watt, 8,870,000-Ohm
R25,31	350-1011	2	Resistor - 2 Watt, 10,000-Ohm
R26	303-0211	1	Potentiometer - 1/2 Watt, 100,000-Ohm
R28	350-0568	1	Resistor - 1/2 Watt
TB1	332-1252	1	Terminal Block
CR15	359-0015	1	Diode, Zener - 24 Volt
	321-0163	6	Clip - Fuse
K1	307-1063	1	Relay - Magnetic Reed
R9	350-1014	1	Resistor - 2 Watt, 13,000-Ohm
R19	350-1007	1	Resistor - 2 Watt, 6,800-Ohm

VOLTAGE REGULATOR BOARD ASSEMBLY

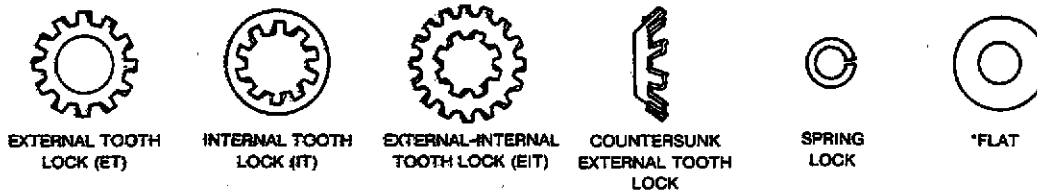


REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	332-1854	1	Printed Circuit Board
C1,14	355-0042	2	Capacitor - 47 Mfd., 250 Volt
C2,7	355-0043	2	Capacitor - .22 Mfd, 250 Volt
C3	355-0047	1	Capacitor - .47 Mfd, 400 Volt
C4,12	355-0044	2	Capacitor - .47 Mfd, 250 Volt
C5,8	355-0046	2	Capacitor - 1 Mfd, 100 Volt
C6	355-0056	1	Capacitor - .33 Mfd, 250 Volt
C11	355-0048	1	Capacitor - .1 Mfd, 400 Volt
C13	355-0039	1	Capacitor - Electrolytic, 100 Mfd, 10 Volt
CR3 thru 11	357-0014	9	Rectifier - Silicon
CR12	359-0036	1	Diode, Zener - 5.6 Volt
CR13	359-0025	1	Diode, Zener - 20 Volt
CR14	359-0026	1	Diode, Zener - 18 Volt
F1,2,3	321-0204	3	Fuse - 1.4 Amp
IC1	367-0005	1	Integrated Circuit
Q2	362-0017	1	Transistor - Silicon (NPN)
Q3	361-0004	1	Transistor - Unijunction
R1	350-0355	1	Resistor - 1/2 Watt, 47-Ohm
R2,3	350-0351	2	Resistor - 1/2 Watt, 33-Ohm
R4	350-1075	1	Resistor - 2 Watt, 4,700,000-Ohm
R5	353-0040	1	Resistor, Fixed - 10 Watt, 270-Ohm
R6	353-0039	1	Resistor, Fixed - 15 Watt, 5,000-Ohm
R7	350-0398	1	Resistor - 1/2 Watt, 3,000-Ohm
R8,16	350-0447	2	Resistor - 1/2 Watt, 330,000-Ohm
R10	351-0885	1	Resistor - 1/2 Watt, 51,000-Ohm
R11	352-0151	1	Resistor, Fixed - 5 Watt, 15,000-Ohm
R12	351-0909	1	Resistor - 1/2 Watt, 90,900-Ohm
R13	350-0411	1	Resistor - 1/2 Watt, 10,000-Ohm
R14	350-0443	1	Resistor - 1/2 Watt, 220,000-Ohm
R15,27	350-0435	2	Resistor - 1/2 Watt, 100,000-Ohm
R17	351-0293	1	Resistor - Metal Film - 1/4 Watt, 11,000-Ohm
R18	303-0210	1	Potentiometer - 1/2 Watt, 5,000-Ohm
R20,22,29 & 30	351-0520	4	Resistor - 1/4 Watt, 28,000-Ohm
R21	351-0522	1	Resistor, Metal Film - 1/4 Watt, 5,110,000-Ohm
R24	351-0523	1	Resistor, Metal Film - 1/4 Watt, 8,870,000-Ohm
R25,31	350-1011	2	Resistor - 2 Watt, 10,000-Ohm
R26	303-0211	1	Potentiometer - 1/2 Watt, 100,000-Ohm
R28	350-0568	1	Resistor - 1/2 Watt
TB1	332-1252	1	Terminal Block
CR15	359-0015	1	Diode, Zener - 24 Volt
	321-0183	6	Clip - Fuse
K1	307-1063	1	Relay - Magnetic Reed
R9	350-1014	1	Resistor - 2 Watt, 13,000-Ohm
R19	350-1007	1	Resistor - 2 Watt, 6,800-Ohm

HARDWARE IDENTIFICATION

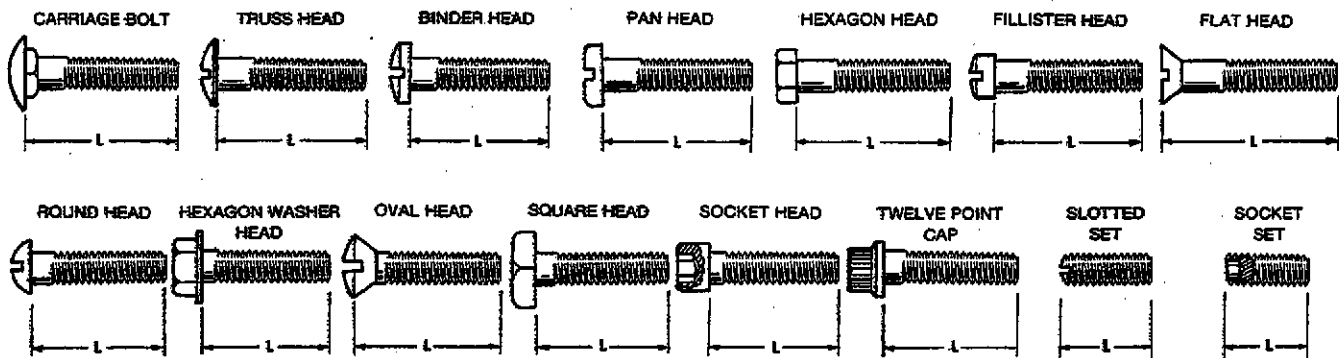
Illustrated hardware items are only for identification purposes. All hardware items listed throughout this parts catalog are steel SAE grade five (5) or lower (zinc plated with clear chromate dip) unless parts description indicates differently. All dimensions are in inches.

WASHER TYPES



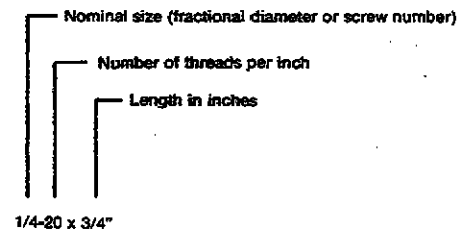
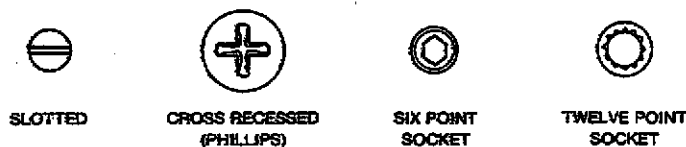
* - Flat washer dimensions given are: Inside Diameter (ID), Outside Diameter (OD) and Thickness (Thk).

BOLT AND SCREW TYPES



L - Measure length between these points.

INTERNAL DRIVE TYPES



NUT TYPES

